UNIVERSITY OF ALBERTA

LEARNING TO BECOME A LEARNING ORGANIZATION

BY

DAVID J. BARRON

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FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled **Learning to Become a Learning Organization** submitted by **David J. Barron** in partial fulfilment of the requirements for the degree of Master of Education in Adult and Higher Education.

AK Deane

Prof. A.K. Deane

Dr. D.J. Collett

K Devine

Dr. K. Devine

Date: October 2, 1996

DEDICATION

This thesis is dedicated to my wife, Adrienne. Without her unfailing encouragement, support and love my own personal process of transformation, of which this thesis is a part, would not have been possible.

ABSTRACT

Considerable interest exists in organizations concerning transformation to a learning organization. Yet much confusion surrounds the definition of a learning organization and little advice is available to organizations contemplating transformation. Organizations must therefore learn to become learning organizations.

This study investigated the nature of the learning process in which a senior management group of a selected large organization engaged when mandated with initiating the organization's transformation to a learning organization. The study employed qualitative action research methodology in a collaborative research partnership between the researcher and the organization involved.

The findings characterized a learning process consisting largely of informal dialogue supported by periods of more formal learning. Learning in the process was found to be facilitated by a supportive learning environment and the collaborative research partnership but to be inhibited by resource constraints and the power of a number of common working assumptions. Commitment to the learning organization was identified as the driving force behind the learning process.

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CHAPTER I

OVERVIEW AND OBJECTIVES OF THE STUDY

Introduction

Traditionally, workplace education has been concerned with the transfer of as little technical knowledge as necessary to workers, with the object of increasing organizational efficiency and reducing waste. This knowledge has been almost exclusively transferred by highly pedagogical methods in formal surroundings by technical experts. This process was born in the Industrial Revolution, and, with the help of the institutionalization of Frederick Taylor's 'scientific management' has been very resilient to any major change (Hart, 1992; Sartoris, 1989).

However, in the present climate of intense change, this traditional model of workplace education is not coping well. Indeed it is a widely-held opinion that the current turbulent times represent the transition from the age of industrialization to the age of information. This Post-Industrial Revolution requires a fundamental change in the basic framework by which we make our life and world make sense similar to the basic change in meaning perspective brought about by the Industrial Revolution.

Evidence of this type of 'paradigm shift' in the business world can be seen by the proliferation of literature re-examining previously unchallenged assumptions, such as those concerning work and the nature of business. Drucker (1995) writes:

> In this society, knowledge is *the* primary resource for individuals and for the economy overall. Land, labor and capital - the economist's traditional factors of production - do not disappear, but they become secondary". (Drucker, 1995, p. 76)

Work has indeed become 'knowledge work' (Hart, 1992), which has, in turn, led to a reappraisal of the nature of business. Indeed Senge (1990) argues that the nature of business can no longer be regarded as the mere maximization of profit, but rather as the development of an organization's capacity to learn.

Since knowledge work requires constant learning (Hiemstra, 1976) and an organization's capacity to learn resides in its individuals, the focus of management has begun to shift away from its traditional role of controlling and directing employees, towards the management of the organization as a learning system. Webber (1993) sees the work of the new manager as creating an environment that allows knowledge workers to learn from their own experience. Senge (1990) sees management's new role as actively constructing 'learning organizations'. In other words, the focus of the manager's new work is facilitating learning.

Although many writers have advocated the facilitation of organizational learning as the primary means by which to proactively deal with organizational change, the most popular has undoubtedly been Senge (1990). Senge's popularization of the 'learning organization' as "... an organization that is continually expanding its capacity to create its future" (Senge, 1990, p.14) has indeed become so influential, that to many people it appears authoritative. Yet Senge provides little of substance concerning the nature of the learning organization.

Essentially, the learning organization prospers because of its capability to deal pro-actively with change by encouraging all its members to constantly develop their own learning, and by establishing processes and systems whereby this learning can be utilized to the individual's, and the organization's, benefit.

However, it is most misleading to regard learning as synonymous with training (Marsick and Watkins, 1990). Although not disputing that there is a definite place for formal training, Marsick and Watkins point out that 83% of workplace learning is actually informal, a significant proportion of this being also incidental learning, that is, neither planned nor intentional.

Workplace learning in the learning organization is also to a large extent transformational (Mezirow, 1991) since to deal effectively with change, an organization's members need not only to cope, but also to transform meaning perspective. The learning organization therefore, must be actively involved with the facilitation of some kind of 'critical reflection' which challenges the underlying assumptions which inhibit innovation.

In fact, the learning organization represents nothing short of a revolution in workplace learning. Nevertheless, very little is known about what the learning organization actually is or about what an organization does to transform itself into a learning organization.

The Problem

Context

The learning organization is very much an emerging construct (Kofman and Senge, 1993; Garvin, 1993). Senge (1990), though popularly held to be authoritative on learning organizations, provides one possible approach to building a learning organization, but does not, indeed cannot, provide a blueprint for would-be learning organizations to follow. Popular literature claiming to provide a step-by-step plan for the learning organization ignores the complexities of the transformation process, the real nature of learning and the uniqueness of the organization itself.

Senge, Kleiner, Roberts, Ross and Smith (1994) expand on the tools and ideas put forward in Senge (1990) and present the experience of a number of organizations as illustration. Watkins and Marsick (1993) and Pedler, Burgoyne and Boydell (1991) similarly describe the practice of a number of organizations in transformation towards the learning organization using differing theoretical bases. Yet all of these works can only offer 'snapshots' of one particular organization's experience with a small part of the learning organization idea. No data are available from any organization which has attempted to deal with the learning organization *in toto*, nor is it suggested that what has proved successful for one organization must necessarily prove successful for another. In short then, an organization which wishes to become a learning organization will have to learn how to become one.

Yet very little is known about the nature of the learning process by which an organization learns to become a learning organization. This study therefore collected qualitative data from an organization in the beginning stages of transforming itself into what it believed to be a learning organization. The researcher analyzed the data to gain a deeper understanding of the nature of the learning process in which the management group mandated with initiating the organization's transformation engaged.

Research Question

When a management group within a selected large organization is mandated with initiating the organization's transformation to a learning organization, what is the nature of the observed learning process in which this group engages?

Research Sub-Questions

- What are the essential qualities of learning in the observed learning process?
- Which primary factors affect learning in the observed learning process?
- Which primary forces drive the observed learning process?

Significance of the Study

The Federal Government of Canada, both in its report on Canada's prosperity (1992) and its review of learning in Canada (1991) has stressed the need for a learning organization view of workplace learning if Canada's industry is to become competitive on a world scale. This view was forcefully underlined by Dixon's (1993) report to the Conference Board of Canada on Organizational Learning. However, although the desirability of the learning organization is clearly stated, considerable confusion exists about what the learning organization actually is (Garvin, 1993; Ulrich, Jick and von Glinow, 1993) or, indeed, whether a learning organization can be said to exist as a state at all (Kofman and Senge, 1993).

Furthermore, although the learning organization represents a major development in adult education, very little research on this phenomenon has been undertaken from an adult education viewpoint. With the notable exception of Victoria Marsick and Karen Watkins, who relate their research to the context of informal and incidental learning, most research into the learning organization has been conducted from a business perspective, leaving the central issue of learning somewhat neglected.

Even less literature exists concerning what actually happens in an organization when it attempts to transform itself into a learning organization. Although Watkins and Marsick (1993) and Senge et al. (1994) document the best practices of a number of large organizations after the fact, there is a real practical need for an in-depth longitudinal study within one organization.

This study is therefore highly significant since it represents an attempt from the perspective of adult education to deepen understanding of a learning process which, although identified as fundamental to the maintenance of organizational effectiveness, has remained remarkably unresearched.

Definition of Terms

The following definitions apply within the bounds of this study only.

Learning Organization

Any organization where the promotion and practical application of learning plays a central role in the organization's activities.

Nature

Essential qualities which characterize a phenomenon.

Observed Learning Process

That part of an ongoing series of actions, events and thoughts in the organization involving ongoing changes in thinking and behaviour for which data were collected in this study.

Organization

Any group of individuals working towards a common purpose.

Primary

Most important, most evident.

Transformation

A radical change in structure, appearance or behaviour reflective of a fundamental change in philosophy.

Assumptions

Three major theoretical assumptions underlie this study. It was, for example, assumed that a learning process should be studied from the perspective of those involved in the process, since it is these individuals who experience the learning. It was also assumed that organizations reflect the cultural values of the society within which they are situated and that the working assumptions of the management group studied would therefore find parallel in North American society at large. Finally, it was assumed that action and thought are linked, i.e. that individuals' actions are at least in some way linked to what they are thinking.

Additionally, two major assumptions were made concerning the group studied. For example, it was assumed that a high degree of alignment of purpose existed among group members and that as such, the group provided a cohesive unit for study. It was also assumed that group members in developing a fundamental appreciation of the learning organization concept had realized the limitations of traditional business thinking and had therefore become aware of a new thinking framework.

Limitations

The researcher acknowledges that the part of the learning process he observed cannot be construed to represent the total learning process which the observed group experienced. The individuals in the observed group, and the group itself, were also involved in many other learning activities which form no part of this study.

The researcher further acknowledges that this study would have been strengthened had the data from the monthly group meetings not been subjected to a uniform condensed transcription. Although his primary concern was to reduce the extensive volume of raw data to a manageable amount, in the light of experience the researcher now sees that this did not necessarily require the application of a uniform treatment to all the data. Transcriptions of meetings do in fact contain large amounts of the actual words used, yet the researcher now realizes that several stretches of original dialogue could have been preserved and marked as such. Similar comments extend to the extensive field notes taken at meetings which were not recorded on tape.

Delimitations

This study was delimited to one management group within one selected organization in one specific industry. This management group cannot be regarded as in any way typical of any other management group in any other industry. Furthermore, the selected organization cannot be regarded as in any way typical of other organizations in the same industry, or, indeed of any organizational type.

Organization of Thesis

This thesis is organized in five chapters. In this chapter the background to the study was described, the research question presented, and the study's significance emphasized. Furthermore a number terms specific to the study were defined and the assumptions underlying the study, together with the study's limitations and delimitations, were identified.

Chapter II presents a review of the literature considered relevant to this study. Chapter III gives details of the research design and methodology of the study and describes the development of the collaborative research relationship in which this study was carried out. The study's findings are then presented in Chapter IV and discussed in Chapter V, where recommendations are also made for practice and further research.

CHAPTER II

REVIEW OF RELEVANT LITERATURE

This chapter reviews books, journal articles, research reports, manuscripts and dissertations considered relevant to this study. The review was conducted with the assistance of the computer-based databases ERIC, ABI-Inform and Dissertation Abstracts. The literature has been grouped around three themes: Background to the learning organization, learning in organizations and practical studies of the learning organization.

Background to the Learning Organization

Literature concerning the development and nature of the learning organization was reviewed in order to better understand the function of the learning process under investigation in this study.

Development of the Learning Organization

The learning organization has developed essentially in response to the need to manage effectively in a constantly changing environment.

The nature of change.

There is widespread agreement throughout the literature that we are living in times of great change. Drucker (1995) puts this view succinctly with his statement:

"No century in history has experienced so many social transformations and such radical ones as the twentieth century" (p.213). Pettigrew (1987) too, comments on the extent of social change but points also to the amount of technological, institutional and political change. Moreover, as Sartoris (1989) observes, the pace of change has accelerated since World War II at a speed unprecedented in history.

Organizations have not dealt well with a constantly changing environment. Programs designed to effect change in organizations have all too often had little, or even an adverse effect on the promotion of change (Beer, Eisenstat and Spector, 1990). Managers have tended to react to a series of isolated external events (Kiernan, 1993) leading to a serious under-management of change in the 'soft' behavioural domain (Kimberley and Quinn, 1984).

In fact Moss Kanter (1995) sees managers as caught in a process over which they have lost control. She likens managers' work in the face of constant change to the croquet game in 'Alice in Wonderland':

> This is a game where nothing remains stable for very long. Everything is in constant motion around the players. Alice tries to hit the ball but the mallet she is using becomes a flamingo, and just as she is about to hit the ball, the flamingo lifts its head and looks in another direction... (p.71-72).

Managers in organizations have, it seems, not fully understood the nature of change. Nadler and Tushman (1989), for example describe a continuum of change from incremental change to radical or 'frame-bending' change. Senge (1990) makes a distinction between adaptive and transformational change. While managers have demonstrated some success in mobilizing organizational reaction to incremental or adaptive change after the fact, they have had little or no success in managing 'frame-bending' or transformational change. Managers have largely failed to understand that transformational or frame-bending change involves the reconfiguration of basic ideas and values and therefore needs radically new management structures and processes (Hinings and Greenwood, 1988; Pettigrew, 1987; Nadler and Tushman, 1989; Senge, 1990).

Indeed, the inability to deal with ongoing change has cost many organizations their very existence. Senge (1990, p.17) and Dixon (1993, p.4) both refer to the fact that one third of the Fortune '500' organizations disappeared between 1970 and 1983.

The changing nature of work.

Two paradoxical trends can be seen in the literature concerning the changing nature of work. At the same time as many jobs are being 'dumbed down' and stripped of intrinsic content many other jobs are increasing intrinsic content considerably. (Hart, 1992; Watkins and Marsick, 1993). Watkins and Marsick (1993, p.5) cite a number of authoritative sources to outline a trend towards the increase in jobs requiring a high level of skills and education and away from low-skill jobs.

Change, particularly technological change, continues to transform work into 'knowledge work' (Drucker, 1995) requiring continued participation in life-long learning as a necessity in order to maintain a level of knowledge sufficient to fulfil work requirements (Hiemstra, 1976). Whereas work and learning were previously regarded as somewhat separate (Dixon, 1993), developments in information technology have fundamentally redefined the relationship between work and learning, making the two increasingly inseparable (Zuboff, 1988).

Learning as an answer to change.

Dixon (1993) uses an example from ecology to illustrate a necessary condition for the survival of any organism or population. She writes: "... In order for an organism to survive, its rate of learning must be equal to or greater than the rate of change in its environment" (p.5). Thus, for organizations to survive in a constantly changing environment, they need to learn and they need to keep on learning (Dixon, 1993; Senge, 1990). Organizations have in general become increasingly divorced from their environments and need to reconnect quickly or face extinction (Miller, 1990; Starbuck, Greve and Hedberg, 1978).

The concept of organizational learning, and how to effectively promote it, plays a major role throughout the literature on managing in turbulent times, though the concept is not undisputed. Ryan (1995) documents the widespread agreement on the importance of organizational learning, while also uncovering the widespread disagreement concerning just how organizations might learn. Kiernan (1993) identifies the management of organizational learning as the primary element of strategic architecture most crucial to an organization's success in the 21st century.

The major role in this organizational learning process must however be ascribed to the organization's members. It is the individual's capacity to learn and to apply what has been learned which ensures the organization's survival. Individual learning, most of it workplace-based, represents the catalyst for organizational change (Watkins and Marsick, 1993). As Howard (1993) notes:

> In such a dynamic and volatile an economy, the chief source of competitive advantage is an organization's people - in particular their ability to anticipate change, adapt to new circumstances, and invent new business practices (Howard, 1993, p. xiii).

Drucker (1995) further observes that if work is based on knowledge, the knowledge worker then becomes the organization's single greatest asset.

A change of mind.

The concept of the learning organization is indeed very much a product of an ongoing fundamental change in *Weltanschauung*, or world view, which society is presently undergoing. The term 'paradigm shift' is often coined in the business literature to describe in very rudimentary terms what is in fact a very complicated phenomenon. Kuhn (1970) is widely regarded as authoritative on this phenomenon.

Examples of a paradigm shift in the business world can be seen in Drucker's (1995) description of an era of 'post-capitalism' where a new society of organizations exists. 'The new economy', characterized in Webber (1993), is a term commonly employed to describe a business environment fundamentally different to that which has existed since the dawn of industrialization. Indeed Block (1990) refers to this 'new economy' as 'post-industrial'. Senge (1990) coins the term 'metanoia' to refer to a fundamental change of mind, and while not describing the phenomenon further, regards it as an essential pre-condition for the learning organization. Indeed Kiefer and Senge (1984) originally introduced learning organizations under the tile of 'Metanoic Organizations'.

Considerable depth is added to the discussion on changing paradigms through the work of Argyris and Schon (1978). Schon (1983) for example shows how professionals' learning has been dominated in the past by the technical rational and advocates a change towards what he terms 'reflection-in-action' in order for professionals to learn what they really need to know. Similarly Argyris, in his seminal 1977 work 'Double Loop Learning in Organizations', outlines the major assumptions underlying what he terms 'Model I' behaviour, showing how these fundamental assumptions have first to change before any dynamic learning, and therefore any real change, can occur.

Marsick (1987) turns her attention to the shift in educational paradigm necessary, away from the technical view of workplace learning as formal instruction in technical skills towards an interpretive paradigm view of learning as informal and experience-based. Hart (1992) takes this matter further, arguing that workplace learning should not be bounded by an interpretive paradigm, but should actively strive towards the construction of a new workplace democracy.

Defining the Learning Organization

Finger and Woolis (1994) point to the potential for confusion between the terms organizational learning and learning organization and outline the conceptual difference between the two terms. They, as do Ulrich, Jick and von Glinow (1993), point to the essential characteristic of the learning organization as the active promotion of change through learning with the object of increasing competitive edge and/or ensuring economic and cultural survival.

The learning organization represents the next logical development from Total Quality Management (Finger and Woolis, 1994; Senge, 1992). The concept is not new, but has gained considerable attention in the business world since Senge (1990) (Ulrich et al., 1993).

Attempts to define the learning organization are numerous, and questioningly helpful. Senge (1990) defines the learning organization as: "... an organization that is continually expanding its capacity to create its future" (p.14). This definition has found widespread, if uncritical, acceptance (Calvert, Mobley and Marshall, 1994). Other important definitions include those of Garvin (1993) and Watkins and Marsick (1993). Garvin defines the learning organization as follows: "A learning organization is an organization skilled at creating, acquiring and transferring knowledge, and at modifying its behaviour to reflect new knowledge and insights" (p.79). For Watkins and Marsick (1993) the learning organization is " ...one that learns continuously and transforms itself.... Learning is a continuous, strategically used process - integrated with, and running parallel to work" (p. 8). Numerous other definitions of the learning organization exist (e.g. Bahlmann, 1990; Kramlinger, 1992; McGill and Slocum, 1993) leading Calvert et al. (1994) to observe that an individual's grasp of the concept of the learning organization is likely to depend very much on the individual's viewing perspective.

Writers have therefore taken different approaches in order to foster understanding of what the learning organization is, or even may be. Watkins and Marsick (1993), for example, describe ten characteristics that they have observed developing learning organizations to have in common. Garvin (1993) itemizes five main policies and practices which he has observed in companies which successfully manage learning. Bennett and O'Brien (1994) studied the practices of twenty-five organizations committed to becoming learning organizations and compiled a guide list of twelve 'building blocks'.

Yet as learning organizations are works in progress, a comprehensive description is scarcely possible (Calvert et al., 1994). As Watkins and Marsick (1993) point out, each organization is different, and will need essentially to construct its own learning organization. Kofman and Senge (1993) state categorically, "There is no such thing as a 'learning organization'" (p.16), regarding the term purely as a category created in language to describe a visionary concept.

Learning in Organizations

Literature concerning the concept of organizational learning, learning in the learning organization and the organization as a learning environment was reviewed in order to better understand the nature of learning processes in organizations.

The Concept of Organizational Learning

The learning organization and organizational learning although closely linked, are distinct concepts. Whereas organizational learning concerns itself with how organizations learn, the learning organization is concerned with the promotion of learning in the organization for economic goals (Finger and Woolis, 1994). Finger and Woolis also point out that while the learning organization is a relatively new phenomenon, organizational learning has quite a history.

Traditionally, as Kim (1993) observes, organizational learning has been crystallized in standard operating procedures. Finger and Woolis (1994) add further to this historical perspective, noting that in their view organizational learning, with its emphasis on bureaucracy, is a phenomenon which belongs in the 1960's.

The current literature shows a wide range of ideas as to the nature of organizational learning as the following examples of definitions illustrate:

* Organizational learning is a process in which members of an organization detect error or anomaly and correct it by restructuring organizational theory of action, embedding the results of their inquiry in organizational maps and images. (Argyris and Schon, 1978, p.58)

* Organizational learning is defined as the process by which knowledge about action outcome relationships between the organization and the environment is developed. (Daft and Weick, 1984, p.286)

* We define organizational learning as the capacity or process within an organization to maintain or improve performance based on experience. (Nevis, DiBella and Gould, 1995, p.73)

Dixon (1993) explains that dozens of different definitions of organizational learning have been offered throughout the last two decades. Dixon goes on to illustrate how many of these definitions have differed according to the focus of the writer. She also, however, identifies common themes among the different definitions, from which basis she evolves her own definition, namely: "Organizational learning is the ability of an organization to continuously and intentionally transform itself though both adaptive and innovative learning" (Dixon,1993,p.54). Calvert et al. (1994) found, in their survey of fifty practitioners that most of those surveyed agreed with Dixon's definition of organizational learning.

Not everyone is so convinced, however, that organizations, as inanimate beings, can learn. Mitchell (1994), for example, examines the overall validity of the concept of organizational learning, arguing that the concept's validity is very much based on the viewpoint from which it is examined. She arrives at a very limited definition of organizational learning which firmly bases itself on the perspective of the individual.

Indeed little is known about how individual and organizational learning interrelate. A number of writers, including Kim (1993), advance the Gestalt view that the whole of organizational learning represents more than the sum of the constituent parts of individual learning. Kim goes on to propose a theoretical model for the transfer of individual learning to organizational learning by expanding Senge's (1990) notion of mental models.

Most writers however look to the work group or team as the primary vehicle in the transfer of learning from the individual to the organization, for example Woolner (1991), Dixon (1993) and Watkins and Marsick (1993). As Woolner (1991) observes: "Organizational learning means on-going, systematic integration of work and learning at three levels - individual, work groups and whole organization" (p.125).

Aspects of Learning

The nature of learning in the learning organization has by and large remained largely undiscussed in the business literature. Adult educators too, have not shown too much interest in this area; the two notable exceptions remain Victoria Marsick and Karen Watkins.

Informal learning.

Marsick and Watkins (1990) and Watkins and Marsick (1993) approach learning in organizations from the viewpoint of a theory of informal and incidental learning. Both authors note that informal learning accounts for at least 83% of workplace learning (1990, p.7), a statistic supported by Zemke (1985) who found that the bulk of management learning took place outside of formal and development programs. Marsick and Watkins go further to show that much informal learning is also incidental, i.e. unintentional and unplanned, somewhat of a by-product of the planned process. Sorohan (1993) corroborates Marsick and Watkins, adding that development into a learning organization requires an understanding of the realities of learning.

This is however not to say that all learning in the learning organization is of an informal nature and therefore totally negate the value of training. Formal training still has a role to play in the learning organization (Bahlmann, 1990; Bennett and O'Brien, 1994). But as Kramlinger (1992) points out, training's role in the learning organization needs to be redefined along the lines of supporting the forces and methods which favour widespread, spontaneous, informal learning.

The importance of the team.

The team has recently become a very popular concept in business literature. Although previously considered desirable, though inessential, the team has quickly advanced to the status of critical organizational unit. Writers on the learning organization also place heavy emphasis on the team, since in their view the team represents a major kind of learning (Dixon, 1993; Kramlinger, 1992; Senge, 1990; Watkins and Marsick, 1993).

Writers agree that the learning organization needs to promote learning at the individual, team and organizational levels (Dixon, 1993; Watkins and Marsick, 1993; Woolner, 1991). These 'levels', however, should not be viewed as discrete, since they overlap considerably (Dixon, 1993; Watkins and Marsick, 1993). But although throughout the literature there is widespread agreement on the importance of the team or work group as a major vehicle for learning, there is a noticeable lack of literature on what team learning is, and how it occurs.

Dixon (1993), for example, observes that individual learning in the learning organization will be more effective if it takes place in already existing intact groups. Marsick and Watkins (1990) point to the team as the major venue for the informal learning strategies of mentoring, coaching and networking.

Senge (1990) sees the development of team learning as one the essentials for the development of a learning organization. Team learning is in fact for Senge a critical 'discipline' described as

> ... a body of theory and technique that must be studied and mastered to be put into practice. A discipline is a developmental path for acquiring certain skills or competencies (p.11).

Senge sees team learning as occurring through individuals thinking insightfully about complex issues and engaging in ongoing dialogue to achieve innovative coordinated action.

In a somewhat similar fashion, Watkins and Marsick (1993) advocate the promotion of collaboration and team learning as one of their six 'action imperatives' for the learning organization. They, however, undertake a more in-depth study into the nature of team learning and, building on the work of Schon (1983), identify five team learning processes, namely framing, reframing, integrating perspectives, and crossing boundaries (p.99). Based on their observations, Watkins and Marsick go on to describe four phases which team learning processes go through, to outline the factors they regard as affecting team learning and to suggest practical measures for the promotion of team learning.

Action learning.

Dilworth (1995) observes that action learning has become a basic ingredient in what he terms "The DNA of the learning organization" (p.249). While the term action learning is attributed to Kurt Lewin in the 1940's, the strategy owes most of its development and application to Revans (1982). Revans saw the setting, or environment, and problems as interrelating with group composition decisions and the learning experience. He classified settings and problems as familiar or unfamiliar, pointing out that team learning approached its maximum when both problem and setting were unfamiliar.

Action learning essentially represents a strategy by which an 'action set' of an organization's members can work together to solve a problem the organization has as yet been unable to solve. In working towards a solution, members of the 'action set' learn with and from each other by discussing the difficulties each is experiencing. Dixon (1993) points out how action learning represents an improvement to the individual learning experience through maintaining the intact work group, situating the learning in the ongoing present, tying learning to context and liberating the individual from the perception of the expert as the only source of truth (p.19-22).

Watkins and Marsick (1993) build on the work of Revans to develop their own model of action reflection learning. Watkins and Marsick add reflection since they regard group reflection as a key ingredient of the action learning process. They write:

> People do not typically ask questions that challenge their pet assumptions. Action reflection learning teams emphasize probing below the surface with incisive questions which challenge these assumptions (p.125).

Indeed Watkins and Marsick advocate not only action reflection learning but also action research and action science as powerful means to enhance action and learning. They describe these three 'action technologies' as follows:

> In action research, people use data to inform action. In action reflection learning, people learn how to learn from their experience so that they can act more effectively. And in action science, people examine their experience to see patterns of learning, or metalearning. In all three cases, these insights lead people and organizations to design action in new ways (p.120-121).

Reflection.

Referring to individual, team and system learning Dixon (1993) stresses: "Fundamental to all three spheres is the ability to reflect critically" (p.13). Woolner (1991), alluding to Schon (1983) writes, "The second level of learning for the individual involves a person developing as the 'reflective practitioner'" (p.125). Shaw and Perkins (1991) remark:

> Effective learning occurs when people effectively reflect on the consequences of their actions and by that gain insight (a richer and more accurate understanding of the key factors in their environment) [authors' parentheses] (p.3-62).

The ability to reflect critically is crucial to the process of 'innovative' (Dixon, 1993) or 'generative' (Senge, 1990) learning which allows individuals, teams and organizations to proactively deal with change, rather than merely react to each individual symptom of change.

Senge (1990) and Dixon (1993) are among a number of writers spotlighting the need for a much more dynamic kind of learning than the traditional adaptive learning, or learning to cope. Senge's ideas are very much based on the work of Argyris and Schon (1978). Argyris' (1977, 1992) concept of single-loop learning, where an organization basically learns how to put right a mistake it has made, parallels Senge's adaptive learning, but is alone insufficient to make a learning organization work. The necessary double-loop learning occurs however only when the organization's goals and assumptions are questioned. Argyris further points out that behavioural norms inhibit double-loop learning in the same way that Senge (1990) outlines how society's institutions inhibit generative learning. Yet for double-loop or transformational learning to take place, reflection has to be nurtured. Senge (1990) documents the need to stimulate reflection in order to break the action-reaction vicious cycle.

Mezirow's (1991) theory of transformational learning puts heavy emphasis on the 'transformation' of experience through reflection rather than the mere accumulation of knowledge. Mezirow identifies three levels of reflection; content, process and premise. Most organizations, Marsick (1987) argues, can at best encourage content reflection while, to promote organizational learning effectively, reflection at all three levels identified by Mezirow must be actively encouraged. Indeed, it is only at Mezirow's level of premise reflection that underlying assumptions and beliefs, Senge's (1990) 'mental models', are challenged.

Dialogue.

Senge (1990) sees dialogue as the 'discipline' (see above) of team learning. Drawing heavily on the physicist David Bohm's work on the collective nature of thought, Senge differentiates between dialogue and discussion. Likening discussion to a two-sided game where the object is to win (p.240) Senge, using Bohm for support, comments:

> The purpose of a dialogue is to go beyond one individual's understanding.... In dialogue a group explores complex difficult issues from many points of view.... (p.240)

Senge sums up his observations with the remark, "*In dialogue people become observers of their own thinking*" (author's italics, p.241) highlighting the importance of dialogue as a vehicle for reflection.

The influence of Argyris (1977, 1992) can also be seen in Senge's (1990) observations on the importance of dialogue in team learning. To access double-loop learning, Argyris argues, the basic assumptions of 'Model I'; i.e. to think strategically, to maximize winning, to avoid eliciting negative feelings and to think rationally; have to be changed in the direction of 'Model II'. The governing variables for action underlying 'Model II' are valid information, free and informed choice and internal commitment to the choice and constant monitoring of the implementation (1977, p.118) i.e. a process of dialogue. Argyris further states: "A key result of using Model II is ability to combine the skills of advocacy with those of encouraging inquiry and confrontation of whatever is being advocated" (1977, p.122). Senge (1990) echoes Argyris in observing: "The most productive learning usually occurs when managers combine skills in advocacy and inquiry" (p.199).

Mezirow (1991) also focuses on the importance of dialogue in stimulating reflection and therefore promoting learning. Only through dialogue under what Mezirow describes as 'ideal speech conditions' can ideas be tested and their validity be determined (p.77-78). Watkins and Marsick (1993), for their part, examine the role of 'talk' in bringing about dialogue, "... by telling what is on one's mind, asking questions about its impact, listening for the reasoning in people's answers, and keeping open to new viewpoints" (p.13). Indeed Watkins and Marsick present a TALK [authors' capitals] model to help develop dialogue in the face of organizational realities.

The Organization as a Learning Environment

Learning in the organization will only take place if the organization provides a learning-supportive environment (Marsick and Watkins, 1990; Watkins and Marsick, 1993; Senge, 1990).

The effect of corporate culture.

Schein (1981) suggests that corporate culture can be considered at least at 3 distinct levels: Artifacts (language rules and procedures, and organizational structure); values (explicit goals and principles for their pursuit) and basic assumptions. Basic assumptions, Schein argues, represent the deepest level of culture and must be examined to understand how an organization affects its members.

Senge (1990) notes that many traditional organizations maintain corporate cultures that inhibit learning. He identifies seven major 'learning disabilities' which exhibit the influence of all of Schein's levels, then illustrates the power of basic assumptions through the 'beer game'. However it is once again Argyris (1977, 1992, 1993) who most powerfully illustrates the manner in which basic assumptions can inhibit learning. Argyris shows how individuals, working on their assumptions, develop defensive routines which thwart learning. These defensive routines "... keep premises tacit, make inferences with covert logic, and subject conclusions to a private test" (1992, p.164). What is worse, since defensive reasoning is not formally sanctioned by the organization, individuals extend their individual defensive routines into the organization. Therefore: "The defensive reasoning individuals use to defend themselves now becomes acceptable, if not required, by organizational practices and policies" (1992, p.164) thus strengthening a learning-unfriendly environment.

Kofman and Senge (1993) identify three areas of 'cultural disfunction' in organizations. They point to the effects fragmentation, competition and reactiveness and note that these areas of cultural disfunction are not limited to organizations, but are endemic in the culture of which the organization is but a part. Kofman and Senge also point to the 'dangerous' aspect of learning, noting that transformational learning takes place between need and fear. Fear, represented as fear of making a mistake, is undoubtedly one of the major inhibitors of learning in the modern workplace.

Watkins and Marsick (1993) point to fear in the workplace when they observe that "A zero-defect culture where mistakes are high risk is unlikely to encourage learning" (p.14). McGill and Slocum (1993) detail seven areas in which organizations must 'unlearn' their current practices so that learning in the organization is no longer inhibited. All of the new practices which McGill and Slocum recommend are concerned to a large degree with the removal of fear from the workplace.

Developing learning communities.

As mentioned above, McGill and Slocum (1993) suggest seven areas in which organizations need to promote change action to promote learning. Kornbluh and Greene (1989) write about the need to construct what they term 'the educative work environment' through "...striving to maximize learning in the workplace through the way work, decision-making, technology and related processes are designed, maintained and redesigned" (p.258). Bohm's conditions for dialogue (Senge, 1990, p.243) or Mezirow's ideal speech conditions (Mezirow, 1991, p.77-78) outline well the type of environment that is supportive of dialogue, and therefore learning.

Kofman and Senge (1993) believe that one of the three foundations of the learning organization is, "...a culture based on transcendental human values of love, wonder, humility and compassion" (p.16) and see the manager's new work as building communities of commitment to this new culture, not only within the confines of the organization, but also in society in general. Indeed recently, the concept of developing learning communities has become popular in the literature as a practical measure by which a learning organization can be constructed. Ryan (1995), in advocating learning communities to 'expert models', attempts a definition:

> As an initial definition, learning communities value the collective process of discovery and people value living with their questions. These communities are sustained by a continued commitment to share this journey of exploration with one another on matters people care deeply about (p.280).

Wenger (1991, 1996) concentrates on the social nature of learning and on interrelation of work and learning to advocate 'communities of practice', which he regards as the social fabric of the learning organization. Nirenberg (1993) proposes the 'workplace community' as a more democratic and more effective organizational structure which goes far beyond the traditional team and from which 'the living organization' can be built.

Ellerington, Marsick and Dechant (1992) represent a more humanist approach to the development of learning communities. They point to the philosophy of Charles Krone, who sees the development of humans' capacity to think, reason and improve as more important than advancing technical expertise. Ellerington et al. reflect on their own experience with Imperial Oil to advocate a view of the promotion of learning as capability development.

Practical Studies of the Learning Organization

Literature on practical advice to organizations contemplating the transformation to the learning organization was reviewed in order to gain information on the nature of the learning process such a transformation requires.

Although much has been written on the learning organization from a theoretical standpoint, comparatively little literature exists concerning the learning organization as a practical entity. Indeed alone three major works offer any real help to an organization contemplating the transformation to a learning organization. Supplementing these major works is a modest assortment of undetailed accounts of individual organizations' experiences with isolated aspects of the learning organization.

Major Works

Senge, Kleiner, Roberts, Ross and Smith (1994) in The Fifth Discipline Fieldbook review the five disciplines of the learning organization presented in Senge (1990) and offer strategies and tools for the development of these disciplines. Although many examples are given of the successful implementation of the disciplines across a wide variety of organizations, these examples remain isolated, and little comprehensive data is given from within one organization. Furthermore, Senge et al. (1994) do not move outside the framework of Senge (1990), strengthening the myth that there is somehow 'the right way' to go about creating a learning organization through not considering alternatives. Yet this book does not provide any kind of way other than through the five disciplines, begging the question to what extent this book helps, or merely further confuses, the reader. Certainly the section on 'Getting Started' seems to refer more to getting started on the five disciplines than the business of building a learning organization.

The second major work, Watkins and Marsick (1993) Sculpting the Learning Organization takes a clearly different approach. From their unique perspectives as adult educators these two authors state:

> Our purpose in writing this book is to help you see clearly in your mind's eye the as yet non-existent sculpture - the learning organization - and to show how some forward-looking organizations have begun to transform themselves into learning organizations (p.xv).

Watkins and Marsick do not attempt to give strategies, but rather to discover the characteristics and qualities of learning organizations, and by illustrating the efforts of some would-be learning organizations, to assist the reader in the creation of his/her own learning organization. The authors identify, for example, six 'action imperatives' for the learning organization and give examples of what certain organisations are doing to follow up one or more of these action imperatives. Watkins and Marsick are however quick to point out that no organization they know is following up on all of the action imperatives and stress that their book should in no way be regarded as recipe for a learning organization.

The third major work, Pedler, Burgoyne and Boydell (1991) The Learning Company introduces the British concept of the 'learning company' - a development very similar to the learning organization in North America, but with a more pronounced sociological, rather than psychological, foundation. Pedler et al. also do not attempt to give a recipe for the learning organization. Instead the book presents one hundred and one 'glimpses' into the learning company. Each one of these glimpses stands alone as its own short story, making its own point about the learning company.

Supporting Articles

As stated above, a modest assortment of articles have been written concerning individual organizations' experiences with implementing the transformation to a learning organization.

Honold (1991), for example, gives an overview of the developments at Johnsonville Foods, widely regarded as one of the early adopters of the learning organization idea. Nopper (1993) briefly describes how Honeywell Canada improved learning. Barrow and Loughlin (1992a, 1992b) describe the transformation of Grand Metropolitan Foods Europe towards a learning organization, although once again at a very superficial level of detail.

Other articles of interest include Marsick, Watkins, O'Neill, Dixon and Catalanello (1994). Here the authors interviewed representatives from seventeen early adopters of the learning organization concept and analyzed their experiences.

Woolner (1991) gives an overview of six years' work with 'Service Co' as this organization sought to transform itself into a learning organization. Although Woolner presents a five-stage developmental model of the learning organization, he stresses that the way organizations transform themselves is situational and organic. Although overall patterns can be discerned, "... the exact nature and timing of tactics and approaches must be determined in the context of the opportunities and pressures which present themselves to an individual organization" (p.134). In fact Woolner concludes, "This means that creating a learning organization is essentially a learning process itself" (p.134).

Summary

This chapter presented a review of the literature related to the research question. The review described the context of the learning organization idea while also identifying the need for those involved in building a learning organization to learn about the nature of the learning organization as they build it.

The concept of organizational learning was discussed and the nature of learning processes in organizations examined in the context of the learning organization. The review also highlighted the necessity of a learning-supportive environment.

Finally, since little practical literature is available to guide those involved with transforming an organization into a learning organization, the need for an experiential learning process was identified.

In the following chapter details of the research design and methodology of this study will be presented.

CHAPTER III

RESEARCH DESIGN AND METHODOLOGY

Introduction

This study makes use of qualitative research methodology from a phenomenological perspective in a collaborative attempt, together with the research participants, not only to better understand an ongoing change process, but also to facilitate this process. The study was approached from the naturalistic paradigm because of the researcher's belief that the phenomenon under investigation should be viewed from the participants' perspective (Bogdan and Biklen, 1992; Lincoln and Guba, 1985; Merriam, 1988; Patton, 1990). Important assumptions underlying this belief concern the largely intuitive nature of workplace learning (Marsick and Watkins, 1990) and the important role played by attitudes in workplace learning (Senge, 1990; Argyris, 1977). It appeared therefore essential to collect comprehensive human data in its natural context using the researcher as the data-gathering instrument (Lincoln and Guba, 1985).

The research design also exhibits characteristics of action research as described by Argyris (1993), Bogdan and Biklen (1992), Brooks and Watkins (1994) and Watkins and Marsick (1993). Bogdan and Biklen (1992) give a basic characterization of action research as "...the systematic collection of information that is designed to bring about social change" (Bogdan and Biklen, 1992, p.223). Brooks and Watkins go on to show that within work organizations this goal of social change is often manifested as the improvement of organizational effectiveness or the improvement of individual practice (Brooks and Watkins, 1994, p.1).

One essential feature of the process of action research is the activist, change-agent role played by the researcher (Bogdan and Biklen, 1992, p.225). It is primarily this emphasis on action for change which lends to a description of this study's methodology more in terms of action research than in terms of single-case qualitative case study, to which it also bears similarities. Nevertheless, since this study spans common ground between action research and qualitative case study, the researcher also took note of the literature surrounding qualitative case study methodology, in particular Merriam (1988) and Yin (1989).

Research Design

In this section the details of the research design are presented.

Selection of Participant Organization

The participant organization was selected according to a number of criteria devised together with the researcher's advisor and fellow graduate students. Four broad selection criteria were identified. Organizations were considered which:

- had demonstrated interest in the concept of the learning organization,
- appeared ready to embark on a process of transformational change,

- had demonstrated willingness to co-operate in research with the University of Alberta and
- were geographically accessible to the researcher.

Several organizations met all selection criteria. The organization referred to throughout this study as 'Energy Inc.' was eventually selected since, in addition to meeting all the selection criteria, it was also in a highly competitive industry, where learning was recognized as essential to the company's continued success.

Energy Inc. is a division of a large energy-based group of businesses in Western Canada. In 1994 this organization demonstrated both its interest in the learning organization and its willingness to co-operate in research through its participation in a study group around the concept of the learning organization run in conjunction with the University of Alberta. This working relationship was strengthened in early 1995 by the organization's financial support of a learning organization seminar held at the University of Alberta. The researcher played a major role in the organization of this seminar; Energy Inc. also sent participants.

For a long time Energy Inc. had centred its activities on Western Canada. More recently however, the company diversified considerably, moving into new business and geographical areas, and as a consequence had embarked upon a wide-sweeping process of fundamental transformational change. The development of the organization as a learning system had been identified as playing a key role in the proposed changes.

Development of a Collaborative Research Relationship

One important feature of the changes at Energy Inc. was the establishment of a cross-functional Effectiveness Group (EG) which was mandated with initiating the organization's transformation into a learning organization. The researcher conducted this study in a collaborative research relationship with EG. There were two aspects to the development of this relationship: Collaborative identification of the research topic and development of a climate of mutual trust and respect.

Identifying the research topic.

Following the selection of Energy Inc. as prospective participant in the proposed research, the researcher, through his advisor and Energy Inc.'s Vice President (Human Resources), initiated contact with EG's leader. The first meeting between the EG leader and the researcher took place in June 1995. The researcher's advisor also attended this meeting as facilitator. This meeting was held in a restaurant in particularly informal surroundings and was very introductory in character. The researcher had prepared a very general outline of his proposed research which he shared with the EG leader. This document characterized the proposed research as qualitative action research into ongoing learning organization developments. A copy of this outline can be found in Appendix A. The EG leader in turn gave some broad information on the state of developments in Energy Inc.'s transformation into a learning organization.

A subsequent meeting between the researcher and the EG leader under similarly informal conditions allowed the researcher to describe further the nature of his research plans and for the EG leader to give further information concerning learning organization developments within his organization. At this stage the researcher gave the EG leader a binder containing a copy of his working proposal document. Also at this meeting, the EG leader asked the researcher to prepare a formal document specifying the proposed research, including timeline and budget.

Since the researcher still had limited knowledge of both Energy Inc. and the stage of development of the learning organization concept there, specifying the research topic and period at this early stage seemed to the researcher to be, at the very least, counter-productive to both parties involved. The researcher did not therefore feel that he could supply the document the EG leader had requested and informed the latter of his view in July 1995.

During the summer period the researcher was engaged in a course of study in Quebec. After the researcher's return to Alberta, the researcher's advisor wrote in September 1995 to the EG leader. This letter outlined the University of Alberta's involvement in the co-operative research project, detailed the researcher's credentials and underlined the latitude available in choice of research direction. A copy of this letter can be found in Appendix B. Later in September the researcher again met with the EG leader, once more in informal surroundings. At this meeting the EG leader gave the researcher more information concerning Energy Inc. learning organization developments.

Towards the end of September the researcher, together with his advisor, met with the EG leader and Energy Inc.'s Vice President (Human Resources) at Energy

Inc. head office. At this meeting the nature of the proposed collaborative research study was further discussed. Following this meeting the researcher's advisor wrote to Energy Inc.'s Vice President (Human Resources) to clarify further some of the points raised there. A copy of this letter can be found in Appendix C.

In November 1995 the EG leader informed the researcher that developments in Energy Inc.'s learning organization had become stalled. At the end of the month the researcher held a three-hour informal interview with the EG leader concerning possible research directions. The researcher recorded and analyzed this interview, although the analysis has not been incorporated into this study. Based on information contained in this interview, the researcher formulated a research direction aimed at producing a learning history at one of Energy Inc.'s production sites where changes in the direction of a learning organization had for a while been implemented. The EG leader agreed with the usefulness of this proposed study and in December 1995 the EG leader sent the researcher documentation on developments in Energy Inc.'s learning organization to date.

In January 1996 the researcher met with the EG leader and learned that learning organization developments at Energy Inc. had again regained momentum. In the course of this meeting both parties agreed that the value of research into an ongoing phenomenon was potentially greater to both parties than the learning history research topic under consideration since November 1995. It was therefore mutually agreed to re-focus on an aspect of the ongoing development of Energy Inc.'s learning organization. Shortly following this meeting the EG leader informed the researcher of EG's upcoming monthly meeting, at which learning organization issues would predominate and invited the researcher to participate.

The researcher now began to develop a detailed research proposal. At EG's invitation, the researcher attended 3 further EG meetings. The researcher was further invited to attend two meetings of the Integration Group (IG), a new structure created to share knowledge about the learning organization across Energy Inc.'s different businesses and divisions.

An overview of the early stages of development of this research study is contained in Appendix D.

Building trust and respect.

Literature on qualitative research underlines the importance of the development of a relationship of mutual trust and respect between researcher and research participants, not only as an ethical issue but also as a measure of data trustworthiness (Bogdan and Biklen, 1992; Patton, 1990). Since the researcher and Energy Inc. were unknown to one another, it was particularly necessary to build such a relationship in order for the research to proceed.

Since June 1995 the researcher and the EG leader have maintained an ongoing process of dialogue. In the researcher's opinion, this dialogue process has been essential to the development of the climate of trust and respect in which this research study was conducted. Meetings between researcher and the EG leader have been typically informal, often in social settings which have been particularly facilitative of more open communication.

By way of example of the climate of trust and respect in which this research study was conducted, the EG leader always demonstrated willingness to share supporting documentation with the researcher. The researcher, for his part, rigidly focussed his research on the essence of the ongoing developments and scrupulously avoided the revelation of any kind of organizationally sensitive material.

EG members were asked for their approval and consent before the study went ahead. In October 1995 the EG leader invited the researcher to meet two other members of the EG. At this meeting, which again took place in informal surroundings, the EG members had an opportunity to meet the researcher before they decided whether or not the research should proceed. The EG members, for example, used the opportunity to ask clarifying questions about the proposed research and also to ask the researcher to demonstrate his knowledge of learning organizations.

Selection of Research Participants

The process of ongoing dialogue between the researcher and the EG leader confirmed the central role which EG would occupy in the transition of Energy Inc. into a learning organization. Therefore it was collaboratively agreed that the researcher would focus this study on the regular monthly meetings of the EG. The research participants would therefore be the members of the EG: the EG leader together with the other three members of the group.

Description of the Research Participants

The EG totals four members, the EG leader and three EG consultants representative of each of the three major functions within the organization. Of these three EG consultants one is located in Western Canada, one in Ontario and one in the Northeastern United States. The EG leader is based at the company head office in Western Canada, but travels extensively throughout the organization's different locations. EG meetings are held at rotating locations to minimize travel disadvantages to any single member of the EG.

Methodology

In this section a detailed account of the research methodology used in this study is presented.

Review of Relevant Literature

The preliminary phase of this research study began with a thorough review of the literature relevant to the research problem. Although some writers warn of the dangers of an exhaustive literature review preceding qualitative research since this may blind the researcher to multiple explanations (Bogdan and Biklen, 1992; Patton, 1990), other writers point to the literature review's essential significance. Merriam (1988) for example sums up the importance of the literature review in qualitative case study as follows: "An investigator who ignores prior research and theory chances pursuing a trivial problem, duplicating a study already done, or repeating others' mistakes" (Merriam, 1988, p.61). In this case, a review of the literature gave the researcher a thorough understanding of the issues involved.

Primary Data Collection

Primary data was gathered from meetings of Energy Inc.'s Effectiveness Group (EG), Integration Group (IG) and Leadership Group (LG) during the period from January to May 1996. A schedule of these meetings can be found in Table 3.1.

Effectiveness Group (EG).

Beginning in January 1996, the researcher attended, and actively participated in, four of the EG's regular monthly meetings, EG1-EG4. While EG1 lasted for one day and EG2 took little more than a morning, EG3 and EG4 lasted for a day and a half each. Although for reasons of trust development the researcher made only notes in his notebook at EG1, subsequent meetings were, with the consent of all those present, tape recorded. Agendas for all of these meetings were largely focussed around the transformation of the organization into a learning organization. The researcher did not however record discussion obviously entirely unrelated to the research topic.

The group's May meeting (EG5) was held in the United States and was considered by the EG leader to have less learning organization-related business

Table 3.1 Schedule of meetings of Energy Inc. Effectiveness Group (EG), Integration Group (IG) and Leadership Group (LG) from which primary data was collected.

Meeting	Date	Location	Participants
EG1	Jan 23 1996	Alberta	3 EG members Researcher 2 Guests (a.m.) 1 EG member via phone link
EG2	Feb 9 1996	Alberta	2 EG members Researcher 1 EG member via phone link
EG3	Feb 26-27 1996	Ontario	4 EG members Researcher 1 Recorder 1 Resource person (Feb 26 only)
EG4	Mar 25-26 1996	Alberta	4 EG members Researcher 1 Recorder (Mar 26 only)
IG1	Apr 12 1996	Alberta	8 IG members 4 EG members Researcher
LG	Apr 21-23 1996	Alberta	Leadership Group 4 EG members
EG5	May 6-7 1996	Mass. USA	4 EG members
IG2	May 21 1996	Alberta	11 IG members 3 EG members Researcher

on the agenda than usual. In this case, as the researcher's presence was not viable, the researcher conducted a semi-structured tape-recorded interview of about 1 hour duration with the EG leader immediately after the latter's return to Canada.

Integration Group (IG).

As the process of beginning the organization's transformation began to gain momentum, Energy Inc. established a learning organization Integration Group (IG) to share information and experience about the learning organization across the organization's different divisions and related businesses. This cross-organizational learning forum met first in April (IG1) and again in May (IG2). Both occasions lasted essentially all day. The researcher was invited to attend these two meetings, which he did, keeping notebook notes of both.

Leadership Group (LG).

The EG planned and facilitated a 3-day off-site workshop on the learning organization for Energy Inc's Leadership Group (LG) in May 1996. The researcher could not be included in this residential workshop and therefore he conducted a semi-structured one and a half hour long taped interview with the EG leader immediately after the workshop's completion.

A note on interviews.

Patton (1990) distinguishes between four different types of interview: informal conversational; guided; standardized open-ended and closed fixed response. The researcher aimed at a semi-structured interview style somewhat between Patton's informal conversational and guided types.

Secondary Data Collection

Secondary data was collected from the following sources.

Important relevant documentation.

The EG leader provided the researcher with a selection of documentation relevant to the ongoing process. This documentation included agendas for forthcoming meetings and learning documents produced at past meetings as well as related background documentation.

Ongoing dialogue with the EG leader.

The researcher documented this process from his first meeting with the EG leader in June 1995. While book notes alone were taken for the initial meetings, with the EG leader's agreement later meetings were tape recorded. The researcher used these tape recordings to add detail to his fieldnotes.

Reflective journal.

The researcher maintained a reflective journal over the whole duration of this research project in which he recorded observations, comments, insights and hunches regarding the ongoing process.

Fieldnotes.

The researcher recorded fieldnotes in a ring notebook for the EG and IG meetings he attended and for the two interviews he held with the EG leader.

Data Analysis

It is characteristic of qualitative research that data analysis accompanies data gathering and influences further procedural stages (Patton, 1990; Bogdan and Biklen, 1992). Indeed Merriam (1988) characterizes this process: "Hunches, working hypotheses, and educated guesses direct the investigator's attention to certain data, and then to refining and/or verifying one's hunches. The process of data collection and analysis is recursive and dynamic" (Merriam, 1988, p.123). It is furthermore characteristic of action research that the results of the ongoing analysis are fed back into the process and affect the process itself (Patton, 1990; Bogdan and Biklen, 1992).

Data preparation.

Although the researcher gave informal ongoing feedback on his observations to the research participants, more formal data analysis did not begin until the transcription of the EG meetings had been completed. Since the researcher believed that the passage of time was an important factor in the development of perspective, the transcription process was not begun until data collection was almost complete. Since the EG tapes were transcribed in the sequence they were collected, they were processed in the light of knowledge gained from subsequent events.

Because of volume, it was considered impracticable to transcribe the tape recordings from the EG meetings verbatim. Rather, the researcher used the tape recordings to supplement his fieldnotes and therefore ensure the 'thickest' data possible (see Patton, 1990, p.375). The researcher personally transcribed the EG meeting tapes using the actual words as much as possible, yet condensing the volume so as to be manageable within the confines of this study. As such, much of the non-meaning bearing elements of the discussion, e.g. re-phrasing of the same information, social pleasantry, or other material in the researcher's opinion not relevant to this study was not transcribed. The researcher kept the members of the EG informed of the transcription procedure. He also took the transcriptions of the meetings to the June monthly EG meeting for EG members' information and comment.

The audiotapes of the interviews, however, were transcribed verbatim. This was done by a professional typist with many years of experience in this area. The researcher listened to the tapes of the interviews and checked the transcriptions carefully. Interview transcripts were returned to the EG leader for validation and further comment.

All transcription documents were prepared with three- inch left hand margins to facilitate analytical remarks. During the transcription process, and while checking interview transcripts, the researcher made use of his fieldnotes and supporting documentation and identified links in the evolving transcription within square brackets.

At this stage, since he had participated in all the events to be transcribed, and since transcription was taking place in the light of further developments, the researcher was sensitive to possible elements of the subsequent analysis. During the transcription or checking process, therefore, the researcher kept an ongoing list of what seemed to him, in the face of his own experience, to be possible elements of a future analysis.

Building an analytical framework.

At the end of the transcription process the researcher had compiled a list of 33 possible elements of a future analysis. Each item on the list was then scrutinized for its essential meaning and re-written as a question, since the researcher felt questions to be a more powerful guide of the analysis. This question list can be found in Appendix E.

The researcher's intent at this stage was to begin to evolve a structure with which to analyze the raw data. In order to minimize researcher bias, the set of 33 questions was then put to two panels. These panels were comprised of graduate students in an ongoing course on learning organizations. Each panel consisted of three people: one panel of three students, the other panel of two students and the researcher's advisor. The researcher gave each panel a list of the 33 questions as in Appendix E together with a set of 8" x 5" cards on which each question was represented by one or more key words written in thick black marker, so as to be clearly visible from a distance.

Each panel was asked to arrange its set of 33 cards with the provided sticky putty on the wall of the classroom in any arrangement meaningful to the group. The groups worked until they felt that they had completed their task. This process took about 40-45 minutes, during which time the researcher was on hand to clarify any questions the panel members had. After a short break, each group 'walked through' its work, explaining how it had arrived at its structure.

The researcher made sketches of each of the panel's systems. After the panels had left the room, the researcher continued to work in the same room, and, with the panels' structures on two walls around him, revised his own structure in the light of important insights uncovered by the panels. The researcher then further refined this analytical structure in dialogue with his advisor; continuing to work in the same room with all structures on display. Eventually, the researcher could group the questions, in the meantime meanwhile condensed to 21, into five major interweaving strands of enquiry.

Applying the analytical framework.

First experiences with the application of this analytical framework highlighted its limitations. Specifically, the researcher became aware of considerable overlap among the five strands of enquiry. At this stage the researcher was sensitive to other analytical approaches. In fact, the researcher developed an alternative analytical approach based on the chronological sequence and the consensual nature of the learning process. A portion of the EG data was coded utilizing this system and a trial write-up of the findings attempted. There then followed a considerable break in the analysis process since the researcher was involved in other research in Britain.

Rebuilding the analytical framework.

On the researcher's return to Canada, he reviewed the original five-strand analytical framework in the light of experience. At this stage the researcher also returned to qualitative research literature for further guidance.

As a result of this process, the original five strand framework was reduced to a three strand model, under the three guiding questions:

- What characterizes the observed process as a learning process?
- How does this process contribute to the development of the learning organization concept within Energy Inc.?
- Which influences affect this process?

A copy of this framework can be found in Appendix F.

The researcher then proceeded to preliminarily code data from the EG meetings. In this process, internally cohesive stretches of dialogue (meaning units) were delimited, then identified by means of a coloured highlight marker as fundamentally answering one of the above three questions. A fourth colour was used to identify meaning units which did not seem to fit the scheme, but these in fact proved to be few. The researcher marked observations, sensitizing comments and the like in the wide left-hand margin as he progressed and while further indicating links to connected literature and marking particularly interesting stretches of data. Throughout this process the researcher maintained a list of observations on, and insights into, the ongoing analysis as he had previously done during data preparation.

Building the final analysis.

The researcher now revised the analytical framework in the light of his coding experience and his list of observations and comments. At this stage a peer of the researcher's was asked for his insight into the framework. This peer, a fellow graduate student in Adult Education, had pursued studies in the area of professional learning which had also included a graduate level course on the learning organization. In the light of the peer's observations and comments, the researcher further revised the analytical framework. This revised framework can be found in Appendix G.

The researcher then reviewed the data in the light of the revised framework. In this intensive process clean copies of the EG data were systematically coded with reference to the revised analytical framework and to the existing preliminary coding. The researcher followed a procedure whereby:

1. The stretch of internally cohesive data or meaning unit was identified, then checked against the meaning unit delimited in the preliminary coding process
2. The meaning unit was assigned to one of the three question headings in the analytical framework, or to the category 'other'
3. The meaning unit was assigned a label or tag.

Tags were written in the wide left margin of the data transcripts and were not solely restricted to terms contained in the analytical framework. Each meaning unit was further assigned a number unique to the EG meeting from which it was extracted. All meaning units were found to fit into one of the three major categories.

Throughout this procedure, as before, the researcher kept a list of ongoing insights and observations, which he later processed.

After reviewing the coding, the researcher then designed a matrix on a sheet of flipchart paper. In this matrix, the columns denoted data sources and the rows denoted categories of the analysis. Each day of an EG meeting was regarded as a separate data source. Meaning units from the EG data were recorded on this chart by means of the unit number and a short descriptive phrase.

Supporting the analysis.

Because of the volume of data generated in this study the analysis was concentrated on data collected from EG meetings. Data from IG and LG meetings was analyzed using the further revised analytical framework after analysis of EG data was complete. Data from IG and LG meetings was then also recorded in the matrix and compared, i.e. triangulated, with EG data. The researcher followed a similar procedure in the analysis of his reflective journal and the primary documentation.

Data Trustworthiness

Sandelowski (1986) observes "Qualitative methods are frequently viewed as failing to achieve or to make explicit rules for achieving reliability, validity and objectivity - criteria of adequacy or rigor in scientific research" (p. 27). Bogdan and Biklen (1992) address the matter of objectivity in action research as follows: "Action researchers believe that objectivity is related to your integrity as a researcher and the honesty with which you report what you find" (p.226). Essentially then, the trustworthiness of qualitative research is often doubted because qualitative research does not follow the same standards of rigor as quantitative research.

Theoretical Considerations

There are two different lines of argument observable in defence of the above accusation. Lincoln and Guba (1985), for example, argue that the concepts of rigor used in quantitative research need redefinition when applied to qualitative research. On the other hand, Bogdan and Biklen (1992) and Patton (1990) stress the basic difference in approach between quantitative and qualitative research and argue that qualitative research needs fundamentally new concepts of trustworthiness and rigor.

Lincoln and Guba (1985) establish a framework for determining rigor using the four parameters of truth value, applicability, consistency and neutrality. The authors then propose that qualitative research should be evaluated using credibility rather than the quantitative notion of internal validity as a measure of truth value, similarly the concept of transferability, rather than external validity should serve as a measure of applicability; dependability rather than reliability as a measure of consistency, and confirmability rather than objectivity as a measure of neutrality.

However credibility is much more than just a qualitative equivalent for the concept of internal validity. As Patton (1990) points out, credibility in qualitative research depends on three different, though related, factors. While Patton agrees that the techniques and methods used to ensure "the integrity, validity and accuracy of the findings" (1990, p.461) are important, he also points toward the importance of the researcher's own credibility, i.e. the researcher's qualifications, experience and perspective. Additionally, however, Patton argues that the credibility of a qualitative study is influenced by the extent to which the researcher has appreciated the philosophical assumptions of the phenomenological paradigm. As an additional note, both Patton and Bogdan and Biklen (1992) note the possible effects of the interaction between researcher and participant on a study's credibility .

The importance of the concept of transferability in qualitative research remains disputed. Bogdan and Biklen (1992), for example, put forward the point of view that qualitative researchers need not concern themselves with transferability. From this viewpoint, the qualitative researcher carefully documents a setting or event and "...it is then someone else's job to see how it fits into the general scheme of things" (Bogdan and Biklen, 1992, p.45). Patton (1990) suggests the use of extrapolation rather than generalization, reflecting the qualitative researcher's concern with research in sufficient depth so as to uncover the commonalities of a particular human experience.

It is further argued that dependability is more than a counterpart to reliability. Sandelowski (1986) expands on Guba (1981) and regards 'auditability' (Guba's earlier term) to be the most important strategy in achieving rigor in qualitative research. She notes, "Auditability is achieved when the researcher leaves a clear decision trail concerning the study from its beginning to its end" (Sandelowski, 1986, p.34).

Through the construction of comprehensive audit trail anyone reading the study can understand why each decision in the study was taken.

Even more controversy exists surrounding the concept of confirmability. Although qualitative research values subjectivity highly, subjectivity is regarded as the antithesis to science. Bogdan and Biklen (1992) sum up this aspect of the qualitative researcher's work: "What qualitative researchers try to do, however, is to objectively study the subjective states of their subjects" (p. 46), stressing the need for researchers to constantly reflect on their own subjectivity. This demonstrates rigor, but has nothing to do with objectivity. As Patton (1990) notes, "Qualitative rigor has to do with the quality of the observations made by an evaluator" (p.480). The quality of the observations is therefore a matter of researcher credibility and trustworthiness involving the human qualities of fairness and balance. Evaluation of qualitative research on the lines of an equivalent to objectivity seems therefore somewhat futile.

Strategies to Ensure Data Trustworthiness

The following strategies were used in this study to preserve data trustworthiness.

Researcher credibility.

Patton (1990) points out that the researcher, as the research instrument of the study, should provide information about him/herself from which it can be seen that he/she has had some experience with qualitative research and understands the assumptions of the qualitative paradigm. Prior to embarking on this study, the researcher successfully completed a comprehensive university graduate level course in qualitative research methods. This course had not only an extensive theoretical component, but also necessitated the production of quite a substantial qualitative research project and was therefore useful in developing practical qualitative research skills.

Audit trail.

Both Sandelowski (1986) and Lincoln and Guba (1985) stress the importance of leaving a clear decision trail from the conception of the research question to the final analysis so that any other researcher who reads this study can easily follow the train of events and decisions. Details of events and decisions throughout the life of this study are both described fully earlier in this chapter and given in overview in Appendix D.

Thick description.

Throughout this study the researcher has sought to provide the most solid descriptive data possible, intending these data to be comprehensive and accurate enough to allow other researchers who read the study to fully understand the nature of the phenomenon under research and therefore to be able to draw their own conclusions (Lincoln and Guba, 1985; Patton, 1990).

Prolonged engagement.

This provides the study with scope by ensuring that sufficient time is spent in the field in order to learn the 'culture,' test for misinformation and also to build trust between researcher and participants (Lincoln and Guba, 1985). The initial contacts with the participating organization were made in June 1995. The researcher has been intensively involved with the development of this research study since that date.

Triangulation.

Lincoln and Guba (1985) and Patton (1990) underline the importance of triangulation for data trustworthiness. Data from EG, IG and LG meetings was compared, i.e. triangulated (see Patton, 1990, p.187). Further data from primary documentation and the researcher's journal was also triangulated with the analysis of EG meetings.

Debriefing dialogue.

The researcher has maintained an ongoing debriefing dialogue with his research advisor since the inception of this research idea. A fundamental feature of this debriefing dialogue has been the tape recording and reflective analysis of the ongoing process through the researcher's reflective journal. This process has proved highly effective in surfacing aspects of the study which may have otherwise remained implicit (Lincoln and Guba, 1985).

Ethical Considerations

All research conducted by students in the Department of Educational Policy Studies at the University of Alberta is subject to approval by that department's Ethics Review Committee. The research proposal for this study was therefore submitted to, and approved by, this committee.

The collaborative nature in which this study was developed ensured that all participants became extremely familiar with the nature and purpose of the research. This allowed participants to give their informed consent, without which the study could not even have begun. The future progress of the study depended exclusively on the active maintenance of this consent, since the researcher attended meetings at the invitation of Energy Inc.'s Effectiveness Group (EG) and was given access to documentary data by this group. Research participants further endorsed their consent by their constant encouragement of the researcher's efforts.

This collaborative study was also conducted in an atmosphere of mutual trust and respect, developed through the ongoing relationship between the researcher and the research participants. As part of the development and maintenance of trust and respect the researcher paid particular attention to the preservation of confidentiality of information. During meetings he attended, the researcher did not record any material not directly related to this study or which in any way could be considered sensitive. When unsure, the researcher always voluntarily switched off the recorder, checking with EG members before switching it back on again.

All tapes and documents relating to the ongoing analysis were kept in a secure place. The researcher transcribed all the EG meetings himself, while the transcription of the interview tapes was entrusted to a professional typist held in high regard by Department of Educational Policy Studies staff. In discussion with panels and peers, the researcher concentrated on the issues and disclosed no confidential information.

Every step has also been taken to preserve the anonymity of the participant organization and the participating individuals in this study. No individual member of the EG has been referred to by name while the organization's name and the names of all organizational structures have been altered.

Summary

This chapter presented the research design and methodology of the study. This study was approached from the naturalistic perspective, utilizing qualitative methodology in action research mode. Research was conducted in collaboration with a selected organization with which a research relationship founded on trust and respect was developed over a period of time.

The researcher gathered primary data from meetings of the collaborating organization in which, with one exception, he participated. During the process of data preparation the researcher devised an initial analytical framework which was substantially revised during the analysis process in the light of developing insight, including insight gained from panel and peer review.

This chapter also provided a theoretical discussion on rigour in qualitative research and outlined the strategies employed in this study to ensure data trustworthiness. The chapter concluded with a discussion of the ethical implications of the study.

In the following chapter the findings of the study will be presented.

CHAPTER IV

RESEARCH FINDINGS

The research question guiding this study inquired into the nature of the learning process in which Energy Inc.'s Effectiveness Group (EG) engaged when initiating Energy Inc.'s transformation to a learning organization. The research sub-questions inquired specifically into the essential qualities of learning in the observed process, the primary factors affecting learning in the observed process and the primary forces driving the observed process. In this chapter the research findings are presented in three sections corresponding to the three research sub-questions. Findings specific to a particular meeting of Energy Inc.'s Effectiveness Group (EG), or in connection with meetings of Energy Inc.'s Integration Group (IG) or Leadership Group (LG) are presented with reference to the schedule of meetings contained in Table 3.1 of the preceding chapter.

The Essential Qualities of Learning in the Observed Process

The observed learning process consisted for the most part of a process of dialogue among those present at EG meetings. This informal learning process did however contain some features characteristic of more formal learning situations. The findings in this section are therefore presented under the sub-headings of informal and formal learning.

Informal Learning

The observed dialogue process exhibited the following features which assisted informal learning.

Questions and Suggestions

Questions and suggestions for action played an important role in the dynamics of the observed learning process. Many incidences were found of pivotal questions which elicited stretches of dialogue composed of suggestions for action and further clarifying questions, e.g. " What do we see as Leadership Group's role?" " Where do we want to go from here?" "Do we all want to be on the Integration Group?". At other times a new stretch of dialogue would be initiated by a sequence of questions around a suggested course of action with a number of perceived alternatives. An example here is given by the question series: "Do we want to communicate with certain people electronically?" "Do we want to meet these people periodically?" "Do we want to include them in our meetings?".

It is particularly interesting to note that in a number of cases question sequences would be used to help frame or help uncover an underlying question that the group had not previously seen. Such was the case, for example, when a long dialogue stretch concerning the membership of a new organizational structure concluded with an identified 'possible real question' as to whether the EG was structuring the learning organization within Energy Inc. in such a way as to make sure it would come to life.

Names and Definitions

Several stretches of dialogue in the observed process were concerned with the naming of a particular phenomenon or with the definition of a phenomenon for the organization's purposes. For example, a thorough discussion of the meaning of the word 'project' brought the group to a deeper understanding of this concept and revealed the concept's incompatibilty with the notion of the learning organization. A similar ongoing discussion concerning what Energy Inc.'s new organization should be called also helped the group gain a clearer understanding of what they were trying to create. Discussion of how terms like 'empowerment' had different interpretations throughout the organization powerfully highlighted the need of EG members to share common meaning. 'Steering Committee', 'benchmarking' 'team' 'network' and 'objective' were among the other terms discussed at some time in the process.

One ongoing discussion which deserves note here is the group's attempt to come to a shared understanding of the nature of 'systems thinking' and capture this in a definition. EG members themselves held differing notions of what they understood to be systems thinking and were aware that the term was becoming more popular with even more divergent interpretations inside Energy Inc. At one stage in the observed process the EG engaged in a thorough discussion of the nature of systems thinking from which all members learned. An interesting product of this discussion was a request for more information from one EG member who possessed considerable expertise in this area. This information was given in a more formal lecture setting and is documented below. The process of building a definition of systems thinking continued to the end of the observed process. Similar, though less extensive, procedures were also used for concepts such as 'intellectual capital' and 'centres of excellence'.

Review

EG members frequently verbally reviewed their progress in meetings. This review function certainly assisted the group's learning. The most common type of verbal review was given with reference to an agenda point. Typically this kind of review took place to facilitate closure on an agenda item. On these occasions the product of the preceding stretch of dialogue, characteristically around one agenda point, was summarized in an attempt to capture the essence of the discussion and uncover possible omissions.

Reviews were also given in response to questions of the "So where are we now?" variety where one EG member would respond to another's question of this type with a quick verbal review of how the present state of the meeting had been reached. This type of review was frequently used when EG was engaged in the planning of meetings for the Integration Group (IG) and the Leadership Group (LG) in order to establish how the item under discussion related to the overall planning process.

Other examples of verbal review included the occasional recall of learning from previous EG meetings and the feedback review given when one member fed back what he/she heard another member say in order to clarify understanding. Each

EG meeting closed with a short debriefing procedure which also made its contribution to reviewing the learning which had taken place during the meeting.

EG members also made frequent use of flipcharts to provide a written review of their learning progress. Throughout the observed process what was felt to be important information was 'captured' on flipcharts. Since EG had established a practice of displaying all completed flipcharts in the room in which they were working, members always had a visual record of their learning available for their reference. Indeed by the end of Day 1 at EG 3 there were so many flipcharts hung around the walls of the meeting room that it was becoming difficult to find space to put up new ones. The team sat surrounded by reminders of the day's learning!

A number of flipcharts were indeed the product of verbal reviews, notably where the intent was to 'capture' a course of action which had previously been the subject of discussion. On these occasions, notably in the planning of meetings for IG and LG, group members would verbally review together in order to reconstruct the essence of the preceding discussion on a flipchart.

Sharing Organizational Knowledge

EG meetings served to a certain extent as a forum where information about Energy Inc. could be informally shared. Throughout the observed process EG members offered observations and insights into organizational life from their individual perspectives in order to add depth to the ongoing discussion. It must be borne in mind here that EG members usually worked at some geographical distance from each other. Specifically then, individual members would offer news and comments concerning organizational realities in their own parts of the business, particularly contributing to the body of knowledge on individuals and groups in different parts of the organization with which EG would liaise.

Mental Pictures

At times throughout the observed process EG members contributed to their group's informal learning by communicating to the group a mental picture that they were 'seeing' at the time. On one occasion a group member helped the group develop a better understanding of its own role in bringing about Energy Inc.'s transformation to a learning organization through communicating with words a mental picture of EG as the engine driving a train composed of LG right behind the engine and IG right behind that. Another group member added dimension to the planning of a workshop on learning organizations by verbally describing her mental picture of one particular section of the workshop and encouraging other members to 'walk through' her mental picture with her. In a further example, group members helped develop a group concept of what a 'centre of excellence' might be through each member verbalizing the mental picture he/she had concerning this concept.

Similarly, EG members also promoted learning by communicating mental pictures of the consequences, as they saw them, of suggested courses of action under discussion. One group member, for example, deepened thinking around how EG, LG and IG could work together by presenting three different structuring models and outlining the consequences associated with the adoption of each. In a similar way, another member described an imaginary LG meeting scenario in order to promote learning around the consequences of challenging, or leaving unchallenged, established patterns of thought. Further examples of this feature include the verbal communication of mental pictures about learning organization concepts and exercises for future learning workshops.

Reflection on Past Experience

Early in the observed process EG members discussed the fact that they had been charged with initiating Energy Inc.'s transformation to a learning organization almost a year previously. However in the past year they had run into a number of obstacles which had hindered any significant progress. Indeed the group had been subject to criticism for their lack of progress. Therefore group members reflected on what they regarded as mistakes they had made in the past year, using the learning from these mistakes to shape future actions.

Towards the end of the observed process the group reflected on whether they had stretched themselves enough in an attempt to create a learning organization for Energy Inc. that was truly something new and different. At this time the group reflected on past experience with one of Energy Inc.'s production sites, where over a period of several years, considerable progress in the transformation to a learning organization had been made. Three of EG's members had been personally involved with conceiving and implementing the changes at this particular location.

The question of whether this particular location had indeed achieved what could be called a learning organization had been raised earlier in the process. On reflection, two of the group who had been closely involved with developments at this site believed that the foundations of a learning organization had been put in place. They pointed, for example, to many of the people policies that had to led to a collaborative rather than a competitive attitude, but added also that, in their opinion, developments had not gone far enough.

Reflection on Current Practice

Major evidence of reflection on current practice is first evident at the third meeting of the Effectiveness Group (EG3). Early in this meeting one group member asked for group feedback on a process suggested for use in an upcoming LG workshop on learning organizations. The process was intended to promote openness and dialogue. In the discussion surrounding whether or not the process was likely to achieve its aims the group added considerably to its learning.

However it was later in the same meeting that the group became involved in a long discussion concerning the whole manner in which they were planning the future LG workshop. In the process of this discussion the group reflected on many aspects of the usual way they planned workshops, indeed on their basic approach to their work, resulting in a number of learning insights. Examples of these new insights were that informal exercises were now considered instead of the usual formal presentations and timings for exercises were considered from the point of view of effectiveness rather than efficiency. Group members realized the need to do things differently to promote change. One group member summarized this need as the need to process things in a way reflective of the learning organization and in a way different to the group's normal behaviour.

The effect of the above discussion could be observed later in the observed process. Group members engaged in an ongoing process of reflection on their usual practice which led them to consider, for example, whether weekends could be used for workshops, whether the methods they had always used to promote dialogue in the organization were effective, whether work already regarded as 'done' was in fact completed, or even whether the sequence in which EG was moving forward was the most effective. On Day 2 of EG4 one group member indeed observed that the morning's dialogue was raising some good questions about what the team was doing and where it was going.

By EG5 this process of reflection had become noticeably more critical. At this meeting EG spent a considerable amount of time reflecting on how the group was functioning as a team in order to increase team effectiveness. The group also had to reconsider its role as an engine driving the learning organization concept in the face of the growing awareness of an increasingly tight overall time schedule (EG was now obliged to present an amount of information to LG at the end of May) and the need to deal with other ongoing issues within EG's mandate. The EG, as one member put it, now needed to learn new ways to stretch itself.

Identifying Further Learning

Questions regarding which individuals could be useful to EG as additional learning resources were raised early in the observed process. By EG2 the group had compiled a list of possible resource persons. By EG3 an extra resource person from within Energy Inc. with considerable experience of both the organization and learning organizations, had been identified and invited to join the group's meeting for most of Day 1. Also at EG3 the group decided to engage in a project to identify best practices of leading-edge organizations regarding the learning organization. Since EG members admitted that they would scarcely have the time to conduct this survey itself, other resource persons were identified to conduct this survey and report back to EG.

The list of possible learning resource persons compiled at EG2 was revisited at EG3, where further names were added. The additions for the most part were employees of Energy Inc. involved in learning organization-related work in other parts of the organization. It was at this stage that discussion also began concerning in which ways these additional resource persons could be used and how they could be approached. By EG4 these internal resources had been contacted and the EG engaged in discussion to investigate the possible nature of these individuals' continuing involvement. At EG4 the group also engaged in further identifying the kind of information it might need to know from the survey of best practices.

Improving Professional Expertise

EG members undoubtedly learned much from the ongoing process of interacting with each other which implicitly contributed to the improvement of their professional expertise. However a number of occasions were evident in this process where EG members shared their expertise more explicitly. Characteristically, group members would describe in some detail how they had solved a particular organizational problem in their part of the business or share their practical experience of a particular organizational effectiveness tool. For example, one group member described what she had done to make sure that the learning organization issue was always on her leadership's agenda. Another group member detailed her experience in applying systems thinking to cash-flow cycle times, while another member shared his experience of the effectiveness of informal exercises in the promotion of dialogue.

Learning from Experts

As described above, an expert resource person was invited to attend EG3. This person, who had recently completed a doctorate in the area of learning organizations, provided a stream of expert input into Day 1 of the group's meeting, adding to the group's knowledge in areas such as the nature of the learning organization, building a learning organization, designing learning processes and the realities of effecting corporate culture change.

Individual Learning

Although the observed process represented a group phenomenon, it produced evidence of purely individual learning, since on occasions group members would volunteer individually to develop work between meetings for presentation back to the group. For example, in preparing the forthcoming LG workshop on learning organizations at EG3, each group member took responsibility for a particular exercise, which he/she would prepare on his/her own.

More Formal Learning Situations

Although the observed learning process for the most part exhibited characteristics of informal learning, at certain stages in the process learning of a more formal nature could be observed.

Lectures and Presentations

There were three occasions when an EG member gave a more formal lecture or presentation to his/her colleagues. On one occasion, a group member had come across information on a particular model of a learning organization which he found particularly interesting and wanted to share with the group. He shared this information in a more formalized presentation, using a set of prepared overhead transparencies which he had compiled from articles and supporting information. These transparencies contained the key elements of the model. This group member then presented the model by elaborating on the key points from the overhead transparencies.

On another occasion, a group member gave a prepared lecture of about 45 minutes on models of systems thinking in response to a request from the group. This group member had been engaged in study in this field for a number of years and had gained considerable expertise. The lecture was highly structured, accompanied by documentary material, and proceeded largely uninterrupted.

On a third occasion, a group member gave an hour-long lecture on the subject of quality of thinking. This lecture also was in response to a request from the group, who were aware of this group member's considerable experience in this area. This lecture was delivered with reference to a pre-prepared flipchart model and was accompanied by a 12-page printed handout. As with the previous lecture, this lecture too proceeded largely uninterrupted.

Learning through Documents

An important role in this learning process was played by the need for EG members to collectively make meaning out of a foundation document outlining the basic characteristics of Energy Inc.'s learning organization. This document had been produced by recording the information from the approximately 50 flipcharts which had captured the learning of Energy Inc.'s Leadership Group (LG) at a workshop they had attended on the subject of creating a learning organization. This workshop had taken place a while before the beginning of the observed process and had been facilitated by a group of consultants specialized in learning organizations.

EG members had not been present at the meeting from which this foundation document had emerged. A member of LG was therefore invited to EG1 to help EG with its interpretation of the document. Unfortunately, this person was unable to attend EG's meeting at short notice due to other more pressing commitments. In the absence of input from anyone directly connected with the foundation document, EG members spent several hours 'walking through' this substantial document, section by section. During this 'walk through' procedure group members consciously tried to avoid assumptions concerning what they thought particular stretches of the document might mean, concentrating instead on recording items on which the group needed further clarification or further information. This process produced a six-page list of items which in turn served as a basis for a discussion between EG members and a representative of LG which took place between EG1 and EG2. During this discussion one EG member made clarifying remarks directly onto EG's list of items and this annotated list was then circulated among EG members.

At EG3 discussion of the foundation document resumed when one group member identified the need to make further meaning out of this document. The group, augmented by the researcher and the additional resource person, therefore split into three working teams of two. The eight sections of the foundation document were then divided among the three teams. Each team then worked independently to make meaning - 'create a storyline' and identify thinking gaps - out of its sections of the document. Teams worked in different rooms for approximately 45 minutes, recording their progress on a flipchart. Returning to the meeting room and utilizing the flipchart it had prepared, each team presented its interpretation of the sections of the foundation document it had examined. A proposed further review of the foundation document by LG and EG at the May learning organizations workshop fell somewhat victim to time constraints.

As mentioned above, EG made frequent use of flipcharts in its meetings. By far the majority of these flipcharts became written documents which were then distributed among team members and undoubtedly added to their learning. In fact, all flipcharts at EG3 became learning documents since a person was placed at EG's disposal to record the learning from this meeting.

EG members also produced documents containing reading material for future EG meetings. One such document for example summarised the groups's working assumptions, another series documented the evolution of various mandates while a further series of documents outlined the open action items the group had identified in its last meeting.

More Formalized Learning Procedures

One major more formalized learning procedure employed by the group was brainstorming. The group utilized this procedure at its strictest, i.e. elicitation without comment followed by analysis, only on one occasion in the observed process. Nevertheless, the procedure of eliciting a list of alternatives on a flipchart and discussing these alternatives with reference to the flipchart could be observed on a number of occasions.

Occasionally also, an EG member would advocate the use of a formal model, which would necessitate the presentation of the model using a flipchart or a whiteboard. Characteristically, these particular periods of more formal learning, such as the presentation of a model to facilitate the identification of ends and states or the elicitation of a cultural framework, were relatively short. Periods of more formal learning typically arose out of the ongoing discussion and were in themselves a stimulus for further discussion.

The Primary Factors Affecting Learning in the Observed Process

The primary factors affecting learning in the observed learning process were found to be either facilitating or inhibiting. The findings under this section are therefore presented under these two sub-headings.

Learning Facilitators

The primary facilitators of learning found in this study were the supportive learning environment of the EG team and the facilitating influence of non-EG team members.

Supportive Learning Environment

The EG team meetings took place in a supportive learning environment, characterized by equality of decision-making power in a community of equals and a climate of mutual trust and respect.

A community of equals.

The EG team acted throughout the observed process as a community of equals. The absence of any hierarchical power structure within the team undoubtedly contributed to an atmosphere more facilitative to learning. One individual in the team was indeed vested with the role of leader by virtue of his position in Energy Inc.'s organizational structure. This person, however, saw his leadership role as primarily supporting and encouraging the maximum participation of each team member in the ongoing process. Indeed on several occasions in the observed process, the 'nominal' leader stated how important it was to him to have everyone in the team fully involved.

Full participatory decision-making was therefore practised throughout the process. No decision was taken without consensus. All EG team members participated in leading sections of the ongoing dialogue and no individual team member could be identified as in any way having played a more dominant role in the process than any other.

A climate of mutual trust and respect.

EG meetings took place in a climate of mutual trust and respect; a major facilitator to the group's learning. This climate was undoubtedly influenced by the fact that three of the of the group's four members had worked closely together for a number of years in the development of such a learning-conducive environment at one of Energy Inc.'s production locations.

EG work was accomplished in a distinctly collaborative atmosphere. As an example, the planning the EG's yearly schedule at EG1 could easily have become a nightmare, since each group member had an extremely full yearly schedule. Yet this difficult task was accomplished through the willingness of all involved to give and take. More importantly, as specific tasks arose throughout the process, group members freely volunteered. Action items such as drafting mandates, developing workshop exercises or developing organizational contacts were apportioned informally and cordially. Additionally, members frequently reminded their colleagues to let them know if they needed any extra support with their particular task.

Group meetings were characterized by the absence of any kind of confrontation. Indeed a widespread willingness was evident among group members to respect other members' points of view and ways of working, as well as a constant desire to avoid, or clear up, any possible misunderstandings. Indeed it was somewhat typical of the climate at EG meetings for group members to apologize if they had expressed themselves in a way that others found difficult to understand.

EG members were constantly sensitive to the feelings of their colleagues. Group members constantly checked their colleagues' comfort level with suggested courses of action. On a number of occasions a team member was heard offering to rework an entire section of dialogue if a colleague was not entirely comfortable with what was emerging as a decision. On one particular occasion, a group member expressed a high need to spend an extensive amount of group time in making meaning out of LG's foundation document. Although other members said that they did not share this member's view, the group was sensitive to his needs and spent considerable time on this issue.

Members were also not hesitant to reveal their own feelings. For example, on one occasion one group member felt that something was wrong with the discussion point - it just felt 'weird' to her and this bothered her. On another occasion, another group member felt bothered since for him the discussion seemed to be going 'all over the place'. In both these cases, subsequent dialogue revealed the cause of anxiety and led to a solution with which all were comfortable. At the end of each EG meeting members gave further insight into their feelings at the concluding debriefing session.

Importantly, EG meetings took place in an atmosphere free from fear. Group members shared sensitive information, insights and comments that they most probably would not have shared in an environment where they had felt in any way threatened. They talked candidly, sometimes using so-called 'strong' language to express their feelings of revulsion or disgust at observed organizational behaviour which they personally found repulsive. A further example of the absence of fear is that group members identified and admitted what they perceived as mistakes they had made, which allowed all concerned to learn from the experience.

It should be added here that EG extended its atmosphere of mutual trust and respect to those people from outside the team who were present at their meetings. Guests at EG1 for example, were made to feel part of the proceedings and were actively encouraged to contribute. The researcher, a participant at four of the group's meetings, was always made to feel comfortable and respected and was constantly encouraged to input into the ongoing process.

Facilitative Influence of non-EG Team Members

Individuals who were not members of EG also facilitated the group's learning, namely a small number of Energy Inc. employees and the researcher.

Energy Inc. employees.

At EG1 two Energy Inc. employees from different parts of the organization sat in on the morning's meeting, which consisted largely of the 'walk-through' of the foundation document described above. Both of these individuals had been invited to the EG meeting because they had expressed an interest in the learning organization concept. EG members, as described above, encouraged these two people to contribute to the meeting. The insights which both of these people gave, from perspectives very different to the EG, were undoubtedly facilitative to the group's learning.

In a similar manner, the resource person present at Day 1 of EG3 also stimulated the group to deeper thought on matters concerning the learning organization. In providing expert advice, this resource person facilitated the group's process of reflection on the nature of the new state the group was attempting to build. A further facilitating influence on the group's learning was the presence of a LG member at EG5, who prompted the group to re-assess its role in organizational transformation and to reflect on the scope of the entire process.

The group's learning process was also facilitated by the provision of a person at EG3 to record the learning of the meeting. The records that this person made, mostly from the flipcharts which EG members produced in the course of the meeting, were distributed to each EG member as learning documents. In the course of Day 1 at EG4, group members remarked on the facilitative role the recorder had played at EG3. Consequently, a person was provided to record learnings from Day 2 of EG4. This practice was, however, not continued at EG5.

The researcher.

In the long process of negotiation which preceded this research study, the researcher's role had always been described in terms of facilitating the EG's learning through providing a perspective from outside of the Energy Inc. organization. It was indeed on this understanding of the researcher's role, that he was invited to participate in EG1. Discussion by EG members in subsequent meetings on the role of the researcher served to reaffirm this understanding.

As stated above, the researcher was actively encouraged to input into EG meetings and as such, his facilitating effect on the group's learning was substantial. Since the researcher had considerable knowledge of learning organization literature, he was able, by his contribution to the ongoing dialogue from this somewhat scholarly perspective, to add depth to the group's understanding of learning organization concepts.

From EG3 on, however, the researcher adopted a more defined position in that he constantly challenged EG's usual way of doing things in order to promote learning and change. For example the researcher challenged EG's usual way of planning meetings and workshops. In particular he advocated the need to promote reflection in meetings, underlining the time requirements of reflection and causing EG members to re-assess the amount of time usually allowed for reflection in their agendas. The researcher further advocated informal learning exercises in small groups as an alternative to the usual formal large group exercises, stimulating EG to creative thought on innovative learning activity designs by which dialogue in the organization could be promoted.

EG members were also urged by the researcher to consider alternative approaches to some of their established techniques. For example, one group member, when planning an icebreaker for the LG learning organizations workshop, commented that she was going to process this icebreaker the way she had always processed icebreakers until the researcher challenged her usual practice.

Learning Inhibitors

The primary inhibitors of learning found in this study were the constraints on EG resources and the influence on learning of EG's own assumptions of efficiency.

Constraints on EG Resources

Constraints were placed upon both the time designated for EG learning organization meetings and the individual participation of EG members in these meetings by the necessity to deal with other organizational business.

Time constraints.

EG1 was originally scheduled to run over two days. Because other business dominated the substance of the meeting on the scheduled Day 1, the amount of time available for learning organization business was reduced to one day. Day 2 of EG4 was reduced at short notice to the morning only, since all EG members were required to participate at an important meeting, unrelated to learning organizations, in the afternoon. At EG5 large amounts of time which were designated for the discussion of learning organization matters had at short notice to be devoted to other business, leaving roughly only one-half day available for learning organization business. These constraints on scheduled time resources represent a significant inhibiting influence on EG's learning process.

Participation constraints.

Significant constraints on the participation of EG members in the learning process also represent an inhibiting influence on EG's learning process. One EG member, for example, was prohibited by other organizational business from attending EG1 and EG2 in person. Although this person participated in both meetings by telephone link, he himself remarked on the difficulties this presented for him. Another group member, due to other business, was unable to participate in EG2 at all. For the same reason another group member was unable to attend most of Day 1 of EG4.

It should also be noted that constraints on participation in EG's learning process did not solely relate to EG members. At EG1, for example, the member of LG who was scheduled to provide important background information to LG's foundation document was also prohibited by other business from participating in EG's meeting. This led to EG's 'walk- through' of LG's document without any input on background and therefore represented a major inhibiting influence to EG's learning.

Working Assumptions

Analysis of EG's learning process revealed three major aspects of EG members' underlying working assumptions which markedly inhibited their learning. The findings illustrate that EG members assumed; that the agenda was an important structuring tool for their meetings, that work done should not normally be re-done and that certain elements of organizational structure were necessary to their process.

The importance of agendas.

Each EG meeting in the observed process was driven by a detailed agenda. Each agenda contained a large number of items requiring action, often specifying the amount of time for the completion of the particular agenda point. As such, agendas constrained learning by focussing the group on the necessity to provide action, in an orderly sequence and within prescribed time boundaries, on a large number of issues.

On a number of occasions group members expressed a desire to bring closure to an agenda item under discussion in order to proceed to the next item. This desire to move forward in the agenda limited learning significantly. Because of this, for example, discussion on identifying additional learning resources was brought to a close after only a small number of the most evident resources had been identified. Discussion on the subject of learning technologies in the learning organization was similarly truncated at the identification stage. In order to move forward in the agenda, planning for the forthcoming IG and LG meetings was brought to swift closure as soon as an outline plan had been constructed, restricting the further learning potential of a more critical planning appraisal.

The agenda was a tool with which EG tried to most efficiently use its time in the face of a growing time squeeze applied to the group's activities from other parts of the organization. However this did result in the adoption of a number of practices which were indeed time-efficient, but which were also learning-restrictive. For example, a simple comparison of EG's characteristics of a learning organization with those in LG's foundation document saved time, but prevented EG from reaching a deeper understanding of what a learning organization might be. Similarly splitting up the EG so that one group member worked with a small number of LG members on different aspects of the learning organization also saved time, yet greatly restricted the team learning for both groups.

The reluctance to re-do work.

Closely related to the group's observed desire to follow the agenda was the group's observed desire to regard work done as being inviolate. The considerable learning potential connected with revisiting previous work in the light of experience remained therefore largely untapped. At EG3, for example, three hours of agenda time were scheduled for the group to develop a consensus model of learning organization characteristics. In the course of the meeting, however, one group member remembered that the group had actually produced such a model about a year previously. This old model was then retrieved and reviewed, but not fundamentally reworked, denying the group access to what would have undoubtedly been an important learning experience. One group member's remarks sum up this incident well: she commented that she would have hated to have done this work all over again, especially if the group had come up with something different! Yet in 'coming up with something different' lay the essence of learning.

On a number of other occasions the group evolved processes which, once established, were further adopted without review. For example, in the interests of efficiency, the planning model for the first IG meeting was in essence used as a model for the LG workshop on learning organizations. It must however be stated, that there is something to be learned from a review of even what appears to be the best model. EG denied itself that opportunity. EG's learning was similarly inhibited by the lack of any kind of review function in the agendas. Therefore the effectiveness of previous meetings was never seriously examined.

The acceptance of structure.

Throughout the observed process EG members devoted considerable time and energy to the production of elements of organizational structure. A good example here was the importance attached to the production of written mandates for all groups involved in the learning organization process. Indeed one group member regarded the review of these mandates as the most important work for the first IG meeting. It must be observed however that the acceptance of the necessity of formal structures such as mandates in itself inhibits learning, since it excludes consideration of other alternatives. Formulating mandates in strict accordance with a pre-existing organizational formula, as became the case with EG, served to amplify this inhibiting effect.

An inhibiting effect on the group's learning could also be identified in the group's efforts to produce formalized models and to write authoritative definitions for learning organization concepts. Although these activities certainly facilitate learning, their inhibiting effect comes from their supposed finality. The group saw its definitions of 'systems thinking' or 'centres of excellence' for example as having at least some measure of organizational permanence. This same permanence set a limit to the group's understanding of these concepts.

The Forces Driving the Observed Learning Process

Two interrelated forces can be identified as driving EG's learning process; the desire to effect change and the desire to better understand the learning organization.

The Desire to Effect Change

EG members' genuine desire to effect change was found to be a major driving force in their learning process. Group members wanted to create something different for their organization. The findings demonstrate their passion and authenticity for change and how they identified possible blocks and barriers in their way.

Creating something different.

Throughout the observed process EG members constantly reaffirmed their commitment to building a learning organization for Energy Inc. that was unique and different. As one group member saw it, this new organization "should be able to beat any competition in any business, any place, anywhere". Indeed group members expressed little interest in devising a new organization that was only marginally different to the one already in existence. From time to time in the process, questions would arise concerning in which way that which the group was evolving could be considered substantially different to what Energy Inc. already had. Employee relationship principles and characteristics of the learning organization were particularly questioned from this angle.

Passion for change.

EG members often displayed their passion for change; for the creation of a new kind of organization. As EG saw it, their organization had to learn about change. Energy Inc. had to, in the group's opinion, learn to cause change to happen, learn to accept change and learn to implement change faster than anyone else. Nowhere was the group's passion for change more evident than at the introduction preliminaries to the first meeting of IG. All EG members present at this meeting cited their passion for change as one of the major reasons why they were attending the meeting. Interestingly EG had agreed before that one group member was functionally sufficient to represent the group at IG, however other members had expressed a 'strong desire' to be present.

Group members were passionate about the new organization they wanted to create. 'Radical' and 'breakthrough' were the kinds of words heard in connection with their plans. In fact the urge to be more radical was heard at EG meetings more than once. It was not seen as sufficient to deal proactively with change. One EG member in particular was a tireless proponent of the need to practice discontinuity - i.e. to actively create change by giving up the tried and tested.

The group's passion for change could also be seen in their desire to implement changes as quickly as possible. The group was very keen for example to start doing change management; to start practising it in the organization instead of merely discussing it. Group members were observed on a number of occasions to voice their frustration and loss of patience at organizational impediments to their change efforts. One group member expressed his deep disappointment in his own behaviour, since he did not think he had moved quickly enough to effect changes during the course of the previous year.

Authenticity.

Not only did EG members work with an extremely high degree of personal integrity, but they were also very aware that the changes they were advocating had to be presented with absolute authenticity. Group members were acutely aware of possible employee perceptions and were insistent that the words they used to describe the changes planned had to reflect the new level of the group's own thinking. Indeed, the concepts of honesty and sincerity played a major role in a draft document on employee relations produced by EG.

EG regarded Energy Inc.'s transformation to a learning organization as a fundamental change in the organization's way of life. Therefore the group was keen to build commitment to this new philosophy within the organization; to build active participation in the changes through two-way dialogue rather than mere compliance through a top-down presentation. EG was intent that the change in the way of life they believed in should in no way be confused with just another change project.

A further measure of the group's authenticity in their desire for change was their observed willingness to deal with organizationally sensitive matters. Group members were not hesitant to deal with root causes in the organization, even if this meant a considerable increase in workload and possible confrontation with superiors.

Identifying blocks and barriers to change.

The desire to effect change was also evidenced in the efforts EG invested in identifying possible blocks and barriers to change. Through identifying blocks and barriers EG was able to find devise ways and means to overcome them and further the course of change. This was especially the case in the process of identifying some key people who had limited knowledge of the learning organization and devising methods by which EG could facilitate their learning. The group also monitored its relationships with other individuals and groups throughout the organization both to avoid the creation of further barriers to change and to resolve any existing ones.

The Desire to Better Understand the Learning Organization

Interrelated with EG members' desire to effect change was the desire to better understand the learning organization, both to develop their own understanding and also to promote further understanding.

Developing understanding.

Throughout the observed learning process EG members were constantly developing a deeper understanding of the nature of the learning organization. The group had engaged, for example, in previous work to develop the list of learning organization characteristics rediscovered at EG3. Members had also been involved with ongoing individual learning around the learning organization. This could be seen not only by the lectures and presentations EG members gave to the group but also in the experience and expertise that group members shared more informally during the dialogue process.

EG was also active in identifying other resources from which group members could learn more about the learning organization. For example they invited two colleagues who they knew were interested in learning organizations to EG1 and they also invited a resource person with specialist knowledge of learning organizations to EG3. Additionally, EG invited the researcher, whose background was in learning organization theory, to be an active participant in their meetings.

Group members actively encouraged both each other and their visitors to share information about the learning organization. Lectures on systems thinking and quality of thought were, for example, given in response to a request from the group. A similar request was heard for assistance in the application of learning organization techniques within the context of EG meetings. EG members furthermore indicated ongoing interest in additional opportunities to add to their learning about the learning organization.

It was observed on a number of occasions that EG members demonstrated their desire to learn more specifically about adult learning. Group members, for example, engaged the resource person at EG3 on this subject. Indeed, as the observed process progressed, EG was observed to increasingly reflect on their own practice from the viewpoint of learning in a learning organization.

Promoting understanding.

EG saw itself very much as the major driver in the creation of Energy Inc.'s learning organization. The group was therefore acutely aware of the need for EG to actively promote and encourage a deeper understanding of the nature of the learning organization. Evidence suggests that the group's learning process was to a certain extent driven by the desire to fulfil this need.

By means of example, one group member described EG's 'number 1 goal' as the ability to present to everybody in the organization a fairly clear picture of what EG meant when it talked about a learning organization. This picture, the group member argued should be very comprehensive: It should include all the major pieces and explain its fundamental difference to anything the organization had had before. Another group member highlighted the need for EG to help LG lead 'this thing called the learning organization'. Fulfilling this need, the group member pointed out, would involve EG's close engagement with LG to help deepen LG's own understanding of the learning organization.

Summary

This chapter presented the findings of this study. Learning in the observed learning process was found to be largely informal in nature and a number of features were identified in the findings which played an important part in the development of informal learning. The observed learning process was however found to contain stretches characteristic of more formal learning.

The primary factors affecting learning were found to be either facilitating or inhibiting. The primary facilitators of learning were identified as the supportive learning environment in which the learning process took place and the effect of certain individuals from outside of the Effectiveness Group (EG), among them the researcher. The primary inhibitors of learning on the other hand were identified as the constraints on EG's resources and a number of EG's working assumptions.

Finally, the forces driving the observed learning process were found to be the genuine desire of EG members to effect change and to better understand the learning organization.

In the following final chapter the study's findings will be summarized and discussed. Recommendations will also be made for Energy Inc., for adult education and for further research.

CHAPTER V

SUMMARY, DISCUSSION AND RECOMMENDATIONS

Summary and Discussion of Findings

In this section the research findings presented in the previous chapter will be summarised and discussed. Since this study does not aim to draw hard and fast conclusions as such, interpretative comments on the findings of a concluding nature remain an integral part of the discussion, and have not been afforded a section of their own.

This summary and discussion is presented under the same three major headings used in the presentation of the findings. These headings, which derive from the research sub-questions, are: The essential qualities of learning in the observed learning process, the primary factors affecting learning in the observed learning process and the primary forces driving the observed learning process.

The Essential Qualities of Learning in the Observed Learning Process

Summary and discussion of the essential qualities of learning in the observed learning process is undertaken with reference to the learning process in general, to features of the informal learning dialogue specifically and to the contribution of learning in the observed learning process to Energy Inc.'s organizational learning.

The Learning Process

In this sub-section the nature of the overall learning process is summarized and discussed.

Informal and formal learning.

Although learning in the observed learning process was found to be for the most part informal, it was not exclusively so. On a number of occasions learning situations of a more formal nature could be determined. This was particularly the case, for example, on the occasions when a group member gave a highly-structured lecture or presentation to the rest of the group. Similarly, the learning process observed in connection with making meaning out of Energy Inc.'s learning organizations foundations document was also highly-structured and more typical of classroom technique. In addition, there were a number of other occasions when informal dialogue was interspersed with periods of more formal learning, such as a group member's brief presentation of a model or thinking framework, the elicitation of action alternatives on a flipchart, or the discussion of a document prepared by a team member.

Although the findings of this study support Marsick and Watkins (1990) and Zemke (1985) concerning the primacy of informal learning in the workplace, they also prompt further thought on both the role of formal learning in the workplace and on the validity of a dichotomous view of formal and informal learning. In this study Effectiveness Group (EG) members, within a process of informal dialogue, identified their formal learning needs and acted to satisfy these needs as they arose. EG members in fact chose for themselves an integrated learning environment in which a process of informal dialogue was supported by various formal learning strategies. These strategies themselves spanned a range of formality from, for example, the brief ten-minute explanation of a thinking framework to a full one-hour theme-based lecture.

Kramlinger (1992) and others suggest that the role of formal learning in the learning organization needs to be rewritten in terms of supporting informal learning processes. The findings in this study show that EG used more formal learning to support its ongoing process of informal learning. Indeed, since EG chose the formal learning it needed, it appears that team members possessed a good implicit understanding of the role of formal learning.

Action learning.

EG engaged throughout the course of its meetings in an ongoing process of dialogue, the purpose of which was to inform ongoing action. A parallel can therefore be drawn between EG's learning process and an informal variety of action learning as described by Watkins and Marsick (1993). Indeed a defining characteristic of action learning is a group of professionals engaging in a collaborative learning process to solve their organization's problems.

Although, following Revans (1982), the setting for EG's learning process was largely, although not always completely, familiar, the problems facing EG were often somewhat unfamiliar. Therefore the learning situation was eminently suited to some kind of action learning. It is further true, pursuing the parallel with action learning further, that much of the group's learning came from individuals sharing the difficulties they were experiencing.

Learning in the team.

It is not proposed here to deal with individual and team learning as separate entities. As Watkins and Marsick (1993) and Dixon (1993) point out, these two areas overlap considerably. It could indeed be argued that all learning is essentially an individual phenomenon. However, it is maintained that since this study focussed on EG's learning as a team, individual learning can hardly be held separate from the team context in which it occurred. Individual learning in the observed process was enhanced through team interactions which promoted dialogue and therefore stimulated reflective thought.

Learning Through Dialogue

The findings highlight a number of features of the informal dialogue process which directly promoted learning.

Questions.

Questions play an important role in the development of learning in the team since they provide the chief vehicle for the ongoing inquiry process necessary to promote true dialogue (see Bohm in Senge, 1990). EG group members made frequent use of questions in the observed learning process and in doing so often caused fellow team members to consider an issue in a new light, thus promoting new learning through reflection necessary to respond to these questions.

However, another particularly powerful aspect of questions can also be seen in the findings. On occasions EG members used sequences of questions to 'frame' the 'real' question, i.e. to formulate or uncover an underlying question. It is of vital importance in an action learning-type situation, where setting and or problem are to a certain extent unfamiliar, to concentrate on identifying the correct problem before turning attention to possible solutions (Watkins and Marsick, 1993).

Names and definitions/mental pictures.

EG members frequently engaged in dialogue concerning what name to give to a concept, idea or structure new to the organization. The most important example here was the ongoing dialogue around what Energy Inc.'s learning organization should be called. EG members also engaged in similar dialogue when formulating working definitions of concepts for organizational use, such as 'systems thinking' or 'intellectual capital'. Through dialogue on what to name or how to define something EG members deepened their understanding of the true nature of the issue under scrutiny. In the dialogue process EG members revealed their assumptions about the concept, idea or structure to be named or defined. Making assumptions explicit assisted all group members' learning by causing each individual to reflect on his/her own assumptions (Argyris, 1977; Senge, 1990).

When individual EG members communicated mental pictures to the group they were making even more use of the opportunity to make explicit their belief systems. A parallel can be drawn here to the 'mental models' of Senge (1990). The findings show however that EG members communicated their mental models to aid learning. Senge, on the other hand, describes how the maintenance of implicit mental models about how the world works can seriously inhibit learning. It is important that EG members attempted to make their mental models explicit, since only when beliefs and assumptions are made explicit can they be challenged and new learning facilitated.

Reflection.

Dixon (1993), Woolner (1991) and especially Mezirow (1991) emphasize the importance of reflection in learning. The preceding two paragraphs outline strategies which EG members utilized to promote reflection. Mezirow, however, differentiates three hierarchical levels of reflection; content, process and premise. It is only at Mezirow's highest level of premise reflection, he argues, that 'critical' reflection occurs, and only this critical reflection can enable the move between what Argyris (1977) terms 'single-loop' and the 'double-loop' learning necessary in the construction of the learning organization.

Using Mezirow's (1991) terminology, a progression in the quality of reflection over the course of the observed process can be demonstrated. At the beginning of the process reflection was largely limited to reflection on content, for example reflection on the constituents of the new Integration Group (IG). But from the Effectiveness Group's third meeting (EG3) onwards evidence can also be seen of reflection on process, for example the re-appraisal of techniques for Leadership Group (IG) and Integration Group (LG) workshops. It is however only in the final meeting of the observed process (EG5) that a measure of critical reflection, i.e.

reflection on underlying premise, can be detected. At EG5 for example, group members critically reflected on their own effectiveness as a team and on their role in bringing about Energy Inc.'s learning organization.

While most of the above refers to ongoing reflection on practice, EG members also reflected, if not extensively, on past experience. On a few occasions group members related details of past experience they regarded as having been a mistake. By reflection on past experience, in particular past action considered ineffective, group members gained valuable new perspectives on future action. Senge (1990) particularly, puts heavy emphasis on the power of learning from experience, especially mistakes.

Other learning strategies.

Yet not all of EG's learning in the observed process was experiential. The findings show that EG members still felt the need for expert knowledge, which they satisfied by either inviting an expert into the group or by asking a group member to temporarily adopt the role of expert 'teacher'. It is important to note here that, in keeping with adult learning principles, EG members themselves identified learning needs and took appropriate steps to respond to these needs as and when they arose.

From one standpoint it could be said that the entire learning process contributed to individual EG members' professional expertise and to the expertise of the team as a whole. Specifically, however, EG members considerably increased each other's professional expertise by contributing details of past action to the ongoing dialogue. Since these details of past experience were often disclosed in passing, as somewhat of a by-product of the ongoing process, this particular manner of increasing professional expertise is highlighted as illustrating the power of incidental learning, in the sense of Marsick and Watkins (1990).

Undoubtedly the group members' frequent use of verbal and written review was also an important strategy in furthering learning. Frequent reviews not only reinforced learning through consolidation and reminder, but also afforded a further opportunity to make the tacitly-assumed explicit and therefore expose any potential misunderstandings.

Contribution to Organizational Learning

Among others, Senge (1990) and Watkins and Marsick (1993) identify the team as the major link in the transfer of learning to the organization. The findings of this study prompt consideration of EG's contribution to Energy Inc.'s organizational learning from the angles of sharing organizational knowledge and establishing learning policy.

Sharing organizational knowledge.

Kim (1993) and Finger and Woolis (1994) point out that organizational learning in the 90's is much more concerned with the informal collection of knowledge within the organization rather than with the traditional focus of maintaining bureaucratic systems. The findings show that throughout the observed process EG members informally shared knowledge about their organization. In acting as a forum for sharing organizational knowledge within Energy Inc., EG can be seen as building an important foundation for Energy Inc.'s organizational learning.

Establishing 'learning policy'.

Since organizations establish policy for each major facet of their activities, it proposed that as organizations become more involved with learning they will also need to establish 'learning policy'. In the same way as, for example, hiring policy lays out an officially-sanctioned set of ideas or plans as a decision-making basis in hiring matters, learning policy would fulfil a similar function in learning matters and serve to guide the design and development of learning processes. To effectively develop organizational learning, learning policy-makers must, of course, understand the nature of adult learning, which raises interesting perspectives on the future working relationship between organizational effectiveness and adult education.

In connection with the findings of this study, the question is posed concerning the extent EG's learning process contributed to the foundation of learning policy at Energy Inc.. The research findings illustrate a number of ways in which EG's learning process has in fact begun to shape Energy Inc.'s emerging learning policy.

During the observed process EG established a practice of capturing ongoing learning on flipcharts. Many of these flipcharts were written up into learning documents. These documents were then circulated to EG members, but were also distributed to other individuals throughout the organization. Hence EG's learning was not only disseminated throughout the organization, but also in document form, which in organizations often serves as one basis for policy.

Similarly EG in its learning process devised definitions of concepts such as 'systems thinking' or 'intellectual capital'. These definitions were created to be used throughout Energy Inc. in connection with the development of the learning organization and as such can be regarded as basic elements of learning policy. It is further interesting to note, with Argyris (1992) that once organizations create definitions, these definitions are highly unlikely to be challenged.

A further way in which the findings illustrate how EG's learning process contributed to the establishment of Energy Inc.'s learning policy is through EG's identification of further learning resources. In identifying further learning resources, EG effectively established policy for Energy Inc. of initiating and developing new learning relationships, both within Energy Inc. and between Energy Inc. and externals. EG's support and encouragement of this study serve as the most illustrative example of this aspect of learning policy.

The Primary Factors Affecting Learning in the Observed Learning Process

As in the previous chapter, the primary factors affecting learning in the observed learning process will be discussed as being either facilitating or inhibiting.

Facilitating Learning - Building a Learning Community

A major facilitating influence on EG's learning was the supportive environment in which the group conducted its business. Although one of the group's members held the title of EG leader, this person practised leadership very much in the manner of the stewardship advocated by Block (1993) and Senge (1990). Hence EG functioned as a community of equals with group members sharing decision-making power. The findings show, for example, that all major decisions were arrived at by consensus. This absence of imbalanced power structure was certainly a contributory factor in the establishment and maintenance of the atmosphere of mutual trust and respect characteristic of EG meetings.

Kofman and Senge (1993) write that learning in organizations takes place between a need and a fear. They also point out, as do Argyris (1992) and Senge (1990), that fear is all too common in the workplace. The findings of this study show that EG maintained a working atmosphere where group members could speak openly without fear. This was particularly facilitative of learning. As Argyris (1992), and to a certain extent Senge (1990), show, people in organizations adopt defensive routines to meet perceived threats. These defensive routines have as their main weapons withholding information or distorting information to the individual's strategic advantage and are accompanied by a lack of willingness to hear the other person's point of view. As such it can be argued that defensive routines represent one of the major barriers to workplace learning. EG's meetings showed no evidence of the existence of defensive routines.

EG can in fact be said to represent a learning community described by Ryan (1995) as a 'community of inquirers' (Ryan, 1995, p.279) and advocated by an increasing number of writers as the platform upon which to effectively build the learning organization. It is therefore extremely important to note that this study shows that EG worked actively to expand its learning community. EG members not only identified and developed new learning relationships, both within Energy Inc. and outside, but also actively extended their climate of trust and respect to these new learning partners. In this context the findings demonstrate how EG members made active use of the strategies of coaching, mentoring and networking which Marsick and Watkins (1990) identify as crucial to the facilitation of informal learning.

The most important evidence for EG's active expansion of its learning community, and the reciprocal facilitative effect on the group's learning, is provided by the very existence of this research study. EG members provided a constant source of support and encouragement to the researcher throughout this study, informally coaching and mentoring him so as to facilitate his contribution to the ongoing dialogue.

As previously stated, the researcher and Energy Inc. were unknown to one another before this study. Indeed the research partnership represented a new learning relationship for both involved parties. This relationship facilitated EG's learning in that the researcher contributed to the dialogue both from the perspective of someone outside of the Energy Inc. organization and as an adult educator. Hence the researcher, in presenting a perspective very different to that of EG members, represented an ongoing stimulus to reflection in EG's learning process.

Inhibiting Learning

The primary factors which inhibited learning in the observed learning process were the desire to avoid discomfort, the need to deal with organizational reality and the restricting effect on learning of a number of working assumptions.

Avoiding discomfort.

It is an ironical paradox, however, that the same supportive learning community which so facilitated EG's learning could also have a possible inhibiting effect on learning. Watkins and Marsick (1993) and Argyris (1992) note that in a polite collaborative atmosphere, where the concern is not to make people feel 'uncomfortable', people are reluctant to ask questions which they think may upset others or which challenge group norms. Yet the process of critical reflection, through which meaning perspectives are fundamentally changed, requires that questions which challenge beliefs and assumptions, and are therefore likely to create 'discomfort', be asked nevertheless.

This is not to advocate that people should be made uncomfortable, merely to note that engaging in a process of transformational learning is highly unlikely to be a comfortable experience. It should not be forgotten that Mezirow's (1991) first stage in the transformational learning sequence is a 'disorienting dilemma'!

Dealing with organizational reality.

The findings identified constraints both on the time available for EG meetings, and on participants' availability, due to the need to attend to other organizational business. Although these resource constraints certainly represented an inhibiting factor in EG's learning, they are part of daily organizational reality with which everyone in organizations must struggle.

Working assumptions.

The findings identified the most important factors which exerted an inhibiting influence on EG's learning as being a product of EG's working assumptions. These working assumptions, however, should not be seen as specific to EG, or even to Energy Inc., even though they undoubtedly are embedded in Energy Inc.'s organizational culture. But, as Kofman and Senge (1993) among others point out, organizational culture is founded on the beliefs and assumptions of the culture in which the organization is situated. As such it can be seen that EG's working assumptions are in fact very representative of widespread working assumptions underlying business practice in North America.

Agendas are, for example, the usual means of planning business meetings throughout North America. Yet agendas focus on action, and in doing so discourage reflection, and therefore inhibit learning. The perceived need to complete all the items on the agenda, moving in sequence from one to the next, sets definite limits to learning, since it reinforces the assumption that while time spent discussing, or rather determining, action is productive time, whereas time spent in reflection is somehow unproductive.

If the implicit purpose of agendas is to bring action to a list of items, it is not then surprising that once an agenda item is considered 'checked off' there is no perceived reason to revisit this item. This study's findings did indeed indicate a reluctance on the part of EG members to re-do work considered 'done'. Yet in a learning process like that of this study, where many of the problems are unfamiliar, there is every reason to engage in an ongoing process of reflection on work done; not only to improve action in the light of new learning but also to tap into an important source of further learning. As an example, EG members denied themselves a major source of learning when at EG3 they decided to adopt the characteristics of the learning organization they had identified several months before rather than fundamentally rework these characteristics in the light of new experience.

It seems that an underlying assumption of efficiency common throughout North American society may well underlie both the use of agendas and the reluctance to re-do work. Yet, it is argued, this notion of efficiency, understood implicitly as obtaining maximum output in terms of action in minimum time, is more likely to inhibit the transformation to a learning organization than facilitate it. Learning takes time. Attempts to make learning more 'efficient' i.e. less time-consuming, are more likely, by seriously restricting the learning process, to result in a less effective learning organization.

Assumptions of efficiency undoubtedly played a role in EG's acceptance of a number of elements of Energy Inc.'s corporate structure rather than questioning their appropriateness in a transformational process. Considerable learning could have been derived, for example, from the consideration of evolving definition processes for evolving concepts instead of traditional 'captured' definitions, or from learning dialogue concerning the appropriateness of carefully-worded static mandates in a dynamic non-linear process.

The Primary Forces Driving the Observed Learning Process

Two interrelated forces were identified in the findings, namely the desire to effect change and the desire to better understand the learning organization. These two interrelated forces will be considered here from the viewpoint of commitment to the learning organization.

The findings provide a wealth of evidence to document EG members' genuine desire for change and highlight the authenticity and passion with which EG members sought to create something new and different for their organization. Group members' passion for change engendered emotional involvement in their learning process. A strong sense of shared purpose in creating a new organization provided the group's learning process with a definite direction and group members' high standards of personal integrity, coupled with their demonstrated wish to 'walk the talk', kept the learning process on track.

Thus EG's learning process was driven by a commitment to change. The vehicle for this change was the concept of the learning organization. The findings illustrate how group members actively strove to deepen their understanding of the learning organization so that they could, as the prime organizational change agents, promote further understanding of the learning organization, and thereby bring about organizational change. In this manner, EG's learning was driven by commitment to the learning organization.

Commitment is identified by Senge (1990) and Kofman and Senge (1993) as the most important quality required of individuals or groups who attempt to transform their organizations into learning organizations. The same authors identify building commitment to the learning organization as the most important work to be done to effect the transformation process. In the absence of this true commitment, the learning organization becomes merely a management 'flavour of the month' or even an organizational self-policing activity.

EG members were driven by a desire to build a 'shared vision' (Senge, 1990) of the learning organization they wanted to create and to share this vision further. This led them to engage in learning about the nature of the learning organization and also to reflect on the nature of adult learning itself.

Recommendations of the Study

The following recommendations are made based on the findings of this study.

Recommendations for Energy Inc.

1. It is recommended that Energy Inc. engage in a process to identify the elements of its cultural framework. This study identifies ways in which culture can facilitate or inhibit learning. The study also shows that culture is tacit and implicit,

i.e. based on beliefs and assumptions. Only by making corporate culture explicit can it be seen which forces are facilitating learning, or perhaps more importantly, which cultural forces are exerting an inhibiting influence on learning.

The work of Argyris and Schon (1978) (see also Argyris 1992) links the development of organizational learning directly to the willingness of the organization to examine and challenge assumptions underlying behaviour within the organization and to the willingness of the organization to keep on examining and challenging these assumptions as circumstances change. Beginning to develop an awareness of the elements of Energy Inc.'s corporate culture represents the starting point for a process essential to the organization's transformation to a learning organization.

2. It is recommended that Energy Inc. begin to evolve a notion of learning within the organization. This study describes and interprets an essentially informal learning process and in doing so uncovers aspects of learning not generally perceived as learning by the business community. Yet as the learning organization makes the promotion and dissemination of learning its focus, it appears essential to build an ongoing understanding of that which is to be promoted and disseminated. It is suggested that Energy Inc. may well have to expand its concept of learning.

Specifically, it is recommended that Energy Inc. consider the learning potential of identifying courses of action in unfamiliar areas. Dixon (1993) points out that those involved in action learning processes often concentrate on the action and do not recognize the learning. Yet, as the literature recommends (see Watkins and

Marsick, 1993) and this study bears out, action learning plays a major role in the construction of the learning organization. In this respect, Energy Inc. is urged to consider more formal action learning programs to build awareness of this kind of learning.

3. It is recommended that Energy Inc. begin to identify the elements of its learning policy and to consciously engage in the development of an explicit learning policy as part of the organization's transformation to a learning organization. This study implies that such a policy will ultimately become a necessary phenomenon, yet it can only be of assistance to the organization's transformation at this early stage to regard the development of learning policy as an integral element of the transformation process. Initially it is suggested that Energy Inc. begin to compile a learning history of events to date.

4. It is recommended that Energy Inc. examine and challenge a number of assumptions underlying its proposed transformation to a learning organization. For example, this study illustrates the importance of reflection in learning while at the same time highlighting how time restrictions, born of a concentration on action, can stifle reflection. It is therefore suggested that reflection should not be regarded as unproductive time merely because it is accompanied by a lack of visible action. Indeed it is further suggested that reflection is a crucial activity without which action may well be misguided.

In a similar vein, this study suggests that traditional static definitions block out further learning. Energy Inc. is therefore urged to consider dynamic definition processes, which allow for the addition or alteration of meaning in the light of learning. It is therefore suggested that Energy Inc. regard the characteristics of its learning organization more as evolutionary than as pre-specified.

5. Finally it is recommended that Energy Inc. review the role of formal learning (e.g. training interventions) in the organization's transformation process. The findings of this study bear out the contention that formal learning's role in the workplace is essentially to support informal learning processes. It is therefore suggested that Energy Inc.'s transformation to a learning organization will be more effective if formal training efforts are consciously designed and implemented with this aim in mind.

Recommendations for Adult Education

1. This study underlines the importance of the workplace as a venue of adult learning. The study further illustrates the interdependence of adult education and other disciplines while demonstrating the power of collaboration in research. It is therefore recommended that adult educators engage in further collaborative interdisciplinary research to better understand a phenomenon which, in the turbulent, changing times in which we live, can only gain in importance.

2. This study presents a largely informal learning process. Yet to a large extent adult education concentrates its attentions on formal education in institutional surroundings. It is therefore recommended that adult educators consider the significance of informal learning in the human experience and accord the study of informal learning commensurate theoretical and practical importance.

3. This study highlights the front-line role that learning plays in dealing with ongoing change, specifically in the world of business. It is therefore recommended that adult educators take cognizance of this fact and reflect on their role as active agents of change. Adult educators have in the past been somewhat suspicious of involvement in what has been termed 'education for economy'. Yet this study has outlined that the world of business, as every other aspect of life, is undergoing fundamental change. Adult educators, as learning process specialists, have a unique perspective on the learning organization which needs to be represented.

Recommendations for Further Research

1. It would be of considerable value and importance to all involved to continue the process of collaborative research begun with this study as Energy Inc.'s process of transformation to a learning organization progresses.

2. It would similarly be of value to undertake collaborative qualitative research similar to this study with another organization and compare the findings of the two studies.

3. Survey research could be conducted across a range of organizations in the initial stages of transformation to a learning organization using research questions derived from this study.

4. Documentary research could be undertaken in collaboration with Energy Inc. with the aim of compiling an organizational learning history which would chronicle the development of learning policy to date and serve as a base for the development of future learning policy.

5. An exhaustive comparative literature study could be undertaken which would bring together and critically analyze writings on the learning organization not only from academic sources in all the involved disciplines but also from the largely unreviewed popular press. This literature study would be considerably strengthened by the inclusion of non-North American material which interprets the learning organization concept in a different cultural context.

6. Qualitative research could be undertaken within an organization with the object of uncovering the elements of corporate culture and demonstrating the effects of corporate culture on learning within the organization.

7. Managers in organizations interested in the learning organization concept could be surveyed, or interviewed, concerning their conception of learning. The results of this research could then be fed back to the participants with the objective of expanding their conception of workplace learning.

Closing Remarks

This study would be incomplete without a personal observation on the research process. Throughout the course of this study, the researcher has become increasingly aware of the learning power of a collaborative group of enquirers. This learning power is, of course, particularly potent when group members come from different backgrounds and see the world in different ways. The researcher acknowledges that he learned more than he thought possible about how organizations work through the process of collaborative research with Energy Inc.'s Effectiveness Group. Furthermore he learned exactly what he needed to know, and doubts whether he could have learned this as effectively in any other setting. In return, the researcher sincerely hopes that his contribution to the research process proves of practical benefit in Energy Inc.'s transformation to a learning organization.

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APPENDIX A

Outline Proposal for Co-operative Research
with Energy Inc.

Introduction:

It is widely agreed and documented that in order to remain competitive, organizations need to focus on the promotion of individual and organizational learning. However very little information exists on how practically to effect and manage the transformation to a 'learning organization'. In particular, sparse research has been conducted into the problems which an organization contemplating, or involved in, such a transformation may encounter.

Proposal:

I am aware that Energy Inc. is not only interested in the concept of the learning organization but has also embarked upon some major changes in this direction. I therefore propose to gather data concerning the practical development of Energy Inc. as a learning system and to establish feedback processes whereby the findings of my research facilitate Energy Inc.'s further development. My research would be qualitative in nature and would form the basis of my Masters thesis in Adult Education at the University of Alberta.

Researcher profile:

I am presently a graduate student of Adult Education at the University of Alberta. For the last two years I have concentrated on deepening my understanding of the learning organization. During this process I have completed relevant courses in both adult education and organizational analysis, participated in numerous seminars with leading thinkers in the field, and have read extensively. Furthermore I am a member of two 'think tank' groups on the learning organization and have compiled an annotated bibliography of the relevant literature. Before returning to university my background was in business communications and employee development.

Timeline

I propose to gather data in the Fall of 1995. The data gathering techniques of interview and observation will be minimally intrusive. Expected completion date of the project is early 1996.

David Barron
Department of Educational Policy Studies
University of Alberta
Edmonton, Alberta T6G 2G5
Tel: (403) 492-7625
Fax: (403) 492-2024

APPENDIX B

Correspondence with Effectiveness Group Leader, Energy Inc.

University of Alberta
Edmonton
Canada T6G 2G5

Department of Educational Policy Studies
Educational Administration, Educational Foundations, Adult and Higher Education
Faculty of Education
7-104 Education Building North,
Telephone (403) 492-7625
Fax (403) 492-2024

September 5, 1995

Dear EG leader

Further to our discussions I am pleased to inform you that the University of Alberta has approved funding for the employment of David Barron as research assistant for our proposed co-operative research project. David's appointment runs from September 1995 through April 1996 and his assignment, under my supervision, will be directed towards research in connection with the development of the learning organization process at Energy Inc. It is David's expectation, and also my own expectation as his research supervisor, that his work with Energy Inc will provide him with the data to complete his Master of Education Research Thesis. I am sure you appreciate that the provision of such funding in what are for the University particularly difficult financial times demonstrates the high level of the University's commitment to the success of this research venture.

I have met with David since his return from Quebec to begin the process of formulating research direction. At this point in time there are several directions that David could follow within his research area of organizational learning We now need to begin the process of narrowing this broad scope towards a specific research design. This research design should in turn yield a definable and well-focused research problem or question. We should strive to have the research design completed as soon as possible. I therefore strongly suggest that David and I meet with you, possibly also VP(H.R.), in the very near future to initiate the process of formulating a plan of action most mutually beneficial to David's and Energy Inc.'s needs.

David's coursework and experiences here at the University of Alberta have provided him with a good foundation from which to move forward with his proposed research. He has, for example, completed qualitative and quantitative research courses in excess of program requirements. During the past year he has concentrated his program of studies in Adult and Higher

Education on the area of organizational learning. As part of this process he successfully completed graduate courses in the Department of Organizational Analysis (Faculty of Business) which focused on the management of change and on new developments in management theory and practice. As the product of an individual study course he developed a comprehensive annotated bibliography on current learning organization literature.

David indeed was largely responsible for organizing this Department's Adult Education Conference event 'Sculpting the Learning Organization' earlier this year. This event, led by Dr. Victoria Marsick and Dr. Karen Watkins, proved a great success and Energy Inc's sponsorship was greatly appreciated. David has also provided leadership to two local discussion groups composed of practitioners interested in learning about learning organizations. A year ago he attended the three-day "Leading Learning Organizations" workshop held by Peter Senge's Innovation Associates at the Banff Centre.

During my 26 years at the University of Alberta a majority of my graduate students have selected to do their research on a project with an Alberta profit or not for profit organization so I am very comfortable working with a graduate student as they define their research problem within the context of an actual organization. Over the years I have found each organization to be different with respect to its needs. We will need to discuss those needs when we meet.

I look forward to moving forward with your company and providing the necessary support David will need to bring his research to completion. Enclosed is brief outline of David's past experiences. David or I will call you later this week or please feel free to contact me at your convenience. My office number is 492-4792 and my home number is 436-8723. My office fax is 492-2024 and my home fax is 438-8368.

Sincerely,

Art Deane

Arthur K. Deane
Associate Professor

cc: David Barron

APPENDIX C

Correspondence with Vice-President (Human Resources), Energy Inc.

University of Alberta
Edmonton
Canada T6G 2G5

Department of Educational Policy Studies
Educational Administration, Educational Foundations, Adult and Higher Education
Faculty of Education

7-104 Education Building North,
Telephone (403) 492-7625
Fax (403) 492-2024

October 2, 1995

Vice President
Human Resources

Dear Vice President (Human Resources)

I appreciated you making extra time available for our September 21 meeting and having the opportunity to personally thank you for your support of the Sculpting the Learning Organization Workshop at the University of Alberta last May. Both David and I welcomed the opportunity to meet you personally and found the meeting most productive. While I am confident that, as a result of our meeting, your understanding of our proposed collaborative research project has deepened, let me attempt to further clarify some of the points raised.

It is, I think, of value to once again outline the nature of action research, since this type of research, differs from traditional concepts of research. Broadly stated, the purpose of action research is to construct new knowledge on which new forms of action can be based. In action research, the researcher collaborates closely with an organization's members to define a problem, determine whether or not the problem initially identified is indeed the real problem, and to collaboratively work on possible solutions. The action research process is cyclical in that the analysis of the previous cycle influences the data collection of the next cycle.

In this project David will collaborate closely with individuals identified by Energy Inc. to systematically collect data from their experience, analyze this data and present the data back to the participants for their further consideration. David intends to conduct this research as an ongoing process, running parallel to learning organization developments at Energy Inc. It is important to stress here that data will be gathered exclusively from participants within Energy Inc. and that analysis feedback similarly will be conducted solely within the confines of the organization.

In performing action research within Energy Inc. David acts as a researcher who exerts a "catalytic" action on Energy Inc's process of transition to a learning organization. This catalytic effect, of course, promises beneficial effects on the speed and effectiveness of the transformation process. It is achieved by providing your organization's members involved in the process with opportunity to reflect and practice deeper thinking about their actions. David remains however a researcher, and his work should not be compared with that of a consultant.

Let me also take this opportunity to restate my role in this venture as one of support to help David think about and develop the research process for his work at Energy Inc For example we have met twice this week to further develop the action research model he hopes to use in guiding his research on the learning organization concept at Energy Inc . It is my hope that this work will also benefit Energy Inc. as your organization strives to develop concrete meaning for the concept of the learning organization in the coming months.

If there is any way I can be of assistance, please do not hesitate to get in touch with me. For your information I have obtained the agenda from the President"s Office for the August meeting you mentioned where leaders of E.I. and the University of Alberta shared their visions for the two organizations. At this point I have only gathered information so I had some idea who was at the meeting and the nature of the broad agenda. Until we define the broad parameters of David's proposed research and Energy Inc.'s need for a formal arrangement with the University of Alberta I will keep the nature of our collaboration informal as we have done to date. It may be in the best interests of David Barron and Energy Inc. to proceed on an informal basis rather than formalize this collaborative relationship. In any case we will continue to dialogue and unfold the nature of the research relationship.

Over this past Summer and early Fall EG leader has been very supportive of exploring and nurturing the proposed research relationship and the collaborative process of beginning to work with David's ideas. I know you have been instrumental in establishing the environment that has enabled that to happen and I thank you for your support.

Sincerely,

Art

Arthur K. Deane
Associate Professor

APPENDIX D

Audit Trail

May 1995

Workshop on Building Learning Organizations organized by Department of Educational Policy Studies, University of Alberta. Researcher plays large part in organization. Energy Inc. co-sponsors event. Energy Inc. delegates attend.

June 1995

Researcher identifies Energy Inc. as prospective research partner. Researcher's advisor takes up contact with Energy Inc.'s Vice-President (Human Resources). Researcher and advisor meet informally with leader of newly-formed Effectiveness Group (EG) and outline proposed research.

Researcher has subsequent informal meeting with EG leader; researcher gives more detail on proposed research, EG leader gives background to Energy Inc.'s proposed transformation and asks researcher to draw up research specifications.

July 1995

Researcher informs EG leader that proposed research difficult to specify at this stage.

September 1995

Researcher's advisor communicates in writing with EG leader, outlining University's involvement in the co-operative research project, researcher's credentials and latitude in choice of research direction. Researcher meets informally with EG leader; obtains more detailed background on Energy Inc. corporate structure and update in learning organization developments.

Researcher and advisor meet with EG leader and VP (Human Resources) to discuss nature of possible collaboration in this project. Advisor communicates in writing to with VP (Human Resources).

October 1995

Researcher meets informally with EG leader and two EG members at EG leader's invitation. EG members question researcher about background and intended research.

November 1995

EG leader informs researcher of slow-down in developments. Researcher meets with EG leader to discuss alternative research directions; records extensive interview on developments in Energy Inc.'s learning organization. Analyzes interview and reformulates research direction as compilation of learning history.

December 1995

EG leader sends researcher documents on developments in the learning organization to date.

January 1996

Researcher meets informally with EG leader; learns that barriers to Energy Inc.'s learning organization have been overcome and developments have regained momentum. Researcher again reformulates research direction. Researcher participates in monthly EG meeting (EG1) at EG leader's invitation, begins to develop formal research proposal.

February 1996

Researcher participates in 2 monthly EG meetings (EG2 and EG3) at group's invitation.

March 1996

Researcher meets with EG leader to give feedback on ongoing observations and discuss present and future nature of collaborative research partnership. Researcher participates in monthly EG meeting (EG4) at group's invitation.

April 1996

Researcher attends inaugural meeting of Integration Group (IG1) at EG leader's invitation; observes and feeds observations back to EG.

May 1996

Researcher interviews EG leader on proceedings at Leadership Group (LG) workshop on learning organizations and at EG's monthly meeting (EG5). Researcher attends second meeting of Integration Group (IG2) at EG leader's invitation; observes and feeds observations back to EG.

Researcher transcribes records of EG meetings, arranges transcription of interview tapes and conducts panel review on analytical framework.

June 1996

Researcher reviews analytical framework, begins trial coding and further revises analytical framework in the light of coding experience.

July 1996

Researcher attends Adult Education conference in Britain; also conducts further research into learning organizations in Britain. Researcher completes trial write-up of one EG meeting; fundamentally re-works analytical framework.

August 1996

Researcher codes data; obtains peer review of analytical framework, makes refining amendments to framework and re-codes data. Prepares overview sheet of analysis and writes up analysis.

APPENDIX E

Building An Analytical Framework - Guiding Questions

1. What is the effect of personalities?
2. Who is supporting and nurturing the learning organization concept?
3. Which new relationships are being formed?
4. How authentic are the people involved?
5. How passionately are the people involved?
6. Why are important decisions taken by the EG often not implemented?
7. How much does organizational culture impede the process?
8. How are both policy and process shaped by existing power relationships?
9. What are the identified blocks and barriers to the process?
10. What is the evolving business case for Energy Inc.'s learning organization?
11. What is EG's role as pilot within Energy Inc.?
12. What is the role of mandates?
13. Can the beginnings of a learning culture be detected?
14. What does the organization think it's building?
15. How fast can changes be implemented?
16. To what extent is policy formed in planning events for IG and LG?
17. To what extent has the opportunity to create new policy been constrained by the desire to adopt tried and tested methods?
18. Who is the policy generator?

19. To what extent has active discontinuity been practised to effect change?
20. Is Energy Inc.'s learning organization something radically new, or something familiar with a new label?
21. To what extent are assumptions underlying practice being examined?
22. How is the process being affected by the felt need to avoid another 'event'?
23. What role does the concept of force play in the process?
24. To what extent does what things are called denote their true nature?
25. Does the process build commitment?
26. How authentic is the process?
27. How important is it to formalize the process?
28. How does the process facilitate professional learning?
29. What new kinds of learning can be identified in the process?
30. What is the effect of explicit models and frameworks on the learning process?
31. What effect are the different assumptions of EG members having on the learning process?
32. How do the EG meetings further organizational learning?
33. What does the emerging learning policy look like?

APPENDIX F

Revised 3-strand Analytical Framework

Strand A

What characterizes the observed process as a learning process?

What kinds of learning can be identified in the process?

How does naming things affect the learning process?

How do assumptions affect learning?

How do meetings affect organizational learning?

To what extent is this process characterized by the use of explicit models and frameworks?

Strand B

How does this process contribute to the development of the learning organization concept within Energy Inc.?

Which elements of an emerging learning culture be detected in the process?

How has adopting tried and tested methods affected learning policy?

How does this process contribute to understanding the nature of the learning organization?

To what extent is this process characterized by the need to clearly define roles and responsibilities?

How does active discontinuity affect learning?

To what extent does the process build commitment within the organization for the learning organization concept?

Strand C

Which influences affect this process?

To what extent is the process influenced by power relationships?

To what extent is the process influenced by the authenticity and passion of the people involved?

How does organizational culture affect the learning process?

To what extent are blocks and barriers to the process identified in the process?

To what extent is this process driven by the need to develop a business case for the learning organization?

To what extent is the process driven by the need to implement changes quickly?

APPENDIX G

Revised Analytical Framework

Strand A

What is the nature of learning in the observed process?

formal learning
  examples (topics):
    systems thinking, generative organization, quality of thought
    (backed up with documentation)

informal learning:
- a. through dialogue
  - examples of different techniques:
  - brainstorming
  - exploratory question and answer stretches
  - communication of vision/scenario
  - reflection on past experience/mistakes
  - naming things/definitions
  - expert advice (externals?)
  - clarifying assumptions
  - role of models/frameworks
- b. process of experiential learning:
  - trial and error

Strand B

Which primary factors affect learning in the observed process?

Facilitators:
Supportive environment
  respect
  feelings
  absence of fear

Externals
  input of expert knowledge

Inhibitors:
Imposed structure
    tried and tested techniques etc:
    agendas
    political realities (power relationships)

Others:

Strand C

Which implicit objectives drive the observed learning process?

To better understand what Energy Inc.'s learning organization could be
    learning about learning
    learning about the organization
    learning about the learning organization

To effect change in the organization
    authenticity
    passion
    roles and relationships
    building commitment
    identifying blocks and barriers to change

The need to develop something new and different
    the need to demonstrate authenticity